

## Sequence Listing

<110> Desnoyers, Luc  
 Eaton, Dan L.  
 Goddard, Audrey  
 Godowski, Paul J.  
 Gurney, Austin L.  
 Pan, James  
 Stewart, Timothy A.  
 Watanabe, Colin K.  
 Wood, William I.  
 Zhang, Zemin

<120> SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC  
 ACIDS ENCODING THE SAME

<130> P3030R1C1

<150> 60/085579

<151> 1998-05-15

<150> 60/112514

<151> 1998-12-15

<150> 60/113300

<151> 1998-12-22

<150> 60/113430

<151> 1998-12-23

<150> 60/113605

<151> 1998-12-23

<150> 60/113621

<151> 1998-12-23

<150> 60/114140

<151> 1998-12-23

<150> 60/115552

<151> 1999-01-12

<150> 60/116843

<151> 1999-01-22

<150> 60/125774

<151> 1999-03-23

<150> 60/125778

<151> 1999-03-23

<150> 60/125826

<151> 1999-03-24

<150> 60/127035

<151> 1999-03-31

<150> 60/127706

<151> 1999-04-05

<150> 60/129122

<151> 1999-04-13

<150> 60/130359

<151> 1999-04-21

<150> 60/131270

<151> 1999-04-27

<150> 60/131272

<151> 1999-04-27

<150> 60/131291

<151> 1999-04-27

<150> 60/132371

<151> 1999-05-04

<150> 60/132379

<151> 1999-05-04

<150> 60/132383

<151> 1999-05-04

<150> 60/135750

<151> 1999-05-25

<150> 60/138166

<151> 1999-06-08

<150> 60/144791

<151> 1999-07-20

<150> 60/146970

<151> 1999-08-03

<150> 60/162506

<151> 1999-10-29

<150> 09/311832

<151> 1999-05-14

<150> 09/380142

<151> 1999-08-25

<150> 09/644848

<151> 2000-08-22

<150> 09/747259

<151> 2000-12-20

<150> 09/816744

<151> 2001-03-22

<150> 09/854208

<151> 2001-05-10

<150> 09/854280  
<151> 2001-05-10

<150> 09/874503  
<151> 2001-06-05

<150> 09/869599  
<151> 2001-06-29

<150> 09/908,827  
<151> 2001-07-18

<150> PCT/US99/10733  
<151> 1999-05-14

<150> PCT/US99/28551  
<151> 1999-12-02

<150> PCT/US99/30720  
<151> 1999-12-22

<150> PCT/US00/05601  
<151> 2000-03-01

<150> PCT/US00/05841  
<151> 2000-03-02

<150> PCT/US00/14042  
<151> 2000-05-22

<150> PCT/US00/15264  
<151> 2000-06-02

<150> PCT/US00/23522  
<151> 2000-08-23

<150> PCT/US00/23328  
<151> 2000-08-24

<150> PCT/US00/32678  
<151> 2000-12-01

<150> PCT/US00/34956  
<151> 2000-12-20

<150> PCT/US01/06520  
<151> 2001-08-28

<150> PCT/US01/17800  
<151> 2001-06-01

<150> PCT/US01/19692  
<151> 2001-06-20

<150> PCT/US01/21066  
<151> 2001-06-29

<150> PCT/US01/21735

<151> 2001-07-09

<160> 80

<210> 1

<211> 1712

<212> DNA

<213> Homo Sapien

<400> 1

ggcatctgcc cgaggagacc acgctcctgg agctctgctg tcttctcagg 50  
gagactctga ggctctgttg agaatcatgc tttggaggca gctcatctat 100  
tggcaactgc tggctttgtt tttcctccct ttttgctgt gtcaagatga 150  
atacatggag tctccacaaa ccggaggact acccccagac tgcagtaagt 200  
gttgtcatgg agactacagc tttcgaggct accaaggccc ccctgggcca 250  
ccgggcccctc ctggcattcc aggaaacat ggaaacaatg gcaacaatgg 300  
agccactggt catgaaggag ccaaaggatga gaagggcgac aaaggatgacc 350  
tggggccctcg aggggagcgg gggcagcatg gccccaaagg agagaagggc 400  
taccggggga ttccaccaga acttcagatt gcattcatgg cttctctggc 450  
aaccacttc agcaatcaga acagtgggat tatcttcagc agtggtgaga 500  
ccaacattgg aaacttcttt gatgtcatga ctggtagatt tggggcccca 550  
gtatcagggtg tgtatttctt caccttcagc atgatgaagc atgaggatgt 600  
tgaggaagtg tatgtgtacc ttatgcacaa tggcaacaca gtcttcagca 650  
tgtacagcta tgaaatgaag ggcaaatcag atacatccag caatcatgct 700  
gtgctgaagc tagccaaagg ggatgagggt tggctgcgaa tgggcaatgg 750  
cgctctccat ggggaccacc aacgcttctc cacctttgca ggattcctgc 800  
tctttgaaac taagtaaata tatgactaga atagctccac tttggggaag 850  
acttgtagct gagctgattt gttacgatct gaggaacatt aaagttgagg 900  
gttttacatt gctgtattca aaaaattatt ggttgcaatg ttgttcacgc 950  
tacaggtaga ccaataatgt tggacaattc aggggctcag aagaatcaac 1000  
cacaaaatag tcttctcaga tgaccttgac taatatactc agcatcttta 1050  
tcactctttc cttggcacct aaaagataat tctcctctga cgcagggttg 1100  
aaatattttt ttctatcaca gaagtcattt gcaaagaatt ttgactactc 1150  
tgcttttaat ttaataccag ttttcaggaa ccctgaagt ttaagttca 1200

ttattcttta taacatttga gagaatcgga tgtagtgata tgacagggct 1250  
 ggggcaagaa caggggcaact agctgcctta ttagctaatt tagtgccctc 1300  
 cgtgttcagc ttagcctttg accctttcct tttgatccac aaaatacatt 1350  
 aaaactctga attcacatac aatgctatct taaagtcaat agatttttagc 1400  
 tataaagtgc ttgaccagta atgtgggtgt aattttgtgt atgttcccc 1450  
 acatcgcccc caacttcgga tgtgggggtca ggagggtgag gttcactatt 1500  
 aacaaatgtc ataaatatct catagaggta cagtgcgaat agatattcaa 1550  
 atgttgcatg ttgaccagag ggattttata tctgaagaac atacactatt 1600  
 aataaatacc ttagagaaag attttgacct ggctttagat aaaactgtgg 1650  
 caagaaaaat gtaatgagca atatatggaa ataaacacac ctttggttaa 1700  
 gataaaaaaa aa 1712

<210> 2  
 <211> 246  
 <212> PRT  
 <213> Homo Sapien

<400> 2  
 Met Leu Trp Arg Gln Leu Ile Tyr Trp Gln Leu Leu Ala Leu Phe  
 1 5 10 15  
 Phe Leu Pro Phe Cys Leu Cys Gln Asp Glu Tyr Met Glu Ser Pro  
 20 25 30  
 Gln Thr Gly Gly Leu Pro Pro Asp Cys Ser Lys Cys Cys His Gly  
 35 40 45  
 Asp Tyr Ser Phe Arg Gly Tyr Gln Gly Pro Pro Gly Pro Pro Gly  
 50 55 60  
 Pro Pro Gly Ile Pro Gly Asn His Gly Asn Asn Gly Asn Asn Gly  
 65 70 75  
 Ala Thr Gly His Glu Gly Ala Lys Gly Glu Lys Gly Asp Lys Gly  
 80 85 90  
 Asp Leu Gly Pro Arg Gly Glu Arg Gly Gln His Gly Pro Lys Gly  
 95 100 105  
 Glu Lys Gly Tyr Pro Gly Ile Pro Pro Glu Leu Gln Ile Ala Phe  
 110 115 120  
 Met Ala Ser Leu Ala Thr His Phe Ser Asn Gln Asn Ser Gly Ile  
 125 130 135  
 Ile Phe Ser Ser Val Glu Thr Asn Ile Gly Asn Phe Phe Asp Val  
 140 145 150

Met	Thr	Gly	Arg	Phe	Gly	Ala	Pro	Val	Ser	Gly	Val	Tyr	Phe	Phe	
				155					160					165	
Thr	Phe	Ser	Met	Met	Lys	His	Glu	Asp	Val	Glu	Glu	Val	Tyr	Val	
				170					175					180	
Tyr	Leu	Met	His	Asn	Gly	Asn	Thr	Val	Phe	Ser	Met	Tyr	Ser	Tyr	
				185					190					195	
Glu	Met	Lys	Gly	Lys	Ser	Asp	Thr	Ser	Ser	Asn	His	Ala	Val	Leu	
				200					205					210	
Lys	Leu	Ala	Lys	Gly	Asp	Glu	Val	Trp	Leu	Arg	Met	Gly	Asn	Gly	
				215					220					225	
Ala	Leu	His	Gly	Asp	His	Gln	Arg	Phe	Ser	Thr	Phe	Ala	Gly	Phe	
				230					235					240	
Leu	Leu	Phe	Glu	Thr	Lys										
				245											

<210> 3  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 3  
 tgtaaaacga cggccagtta aatagacctg caattattaa tct 43

<210> 4  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 4  
 caggaaacag ctatgaccac ctgcacacct gcaaattccat t 41

<210> 5  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 5  
 gcaacaatgg agccactggg catg 24

<210> 6  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 6  
gcaaaggtgg agaagcgttg gtgg 24

<210> 7  
<211> 52  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 7  
cccacttcag caatcagaac agtgggatta tctttcagca gtgtttgaga 50  
cc 52

<210> 8  
<211> 1579  
<212> DNA  
<213> Homo Sapien

<400> 8  
gagagaatag ctacagattc tccatcctca gtctttgcaa ggcgacagct 50  
gtgccagccg ggctctggca ggctcctggc agcatggcag tgaagcttgg 100  
gaccctcctg ctggcccttg ccttgggect ggcccagcca gcctctgccc 150  
gccggaagct gctggtgttt ctgctggatg gttttcgctc agactacatc 200  
agtgatgagg cgctggagtc attgcctggt ttcaaagaga ttgtgagcag 250  
gggagtaaaa gtggattact tgactccaga cttccctagt ctctcgtatc 300  
ccaattatta taccctaattg actggccgcc attgtgaagt ccatcagatg 350  
atcgggaact acatgtggga cccaccacc aacaagtcct ttgacattgg 400  
cgtcaacaaa gacagcctaa tgctctcttg gtggaatgga tcagaacctc 450  
tgtgggtcac tctgaccaag gccaaaagga aggtctacat gtactactgg 500  
ccaggctgtg aggttgagat tctgggtgtc agaccacct actgcctaga 550  
atataaaaat gtcccaacgg atatcaattt tgccaatgca gtcagcgatg 600  
ctcttgactc cttcaagagt ggccggggccg acctggcagc catataccat 650  
gagcgcatg acgtggaagg ccaccactac gggcctgcat ctccgcagag 700  
gaaagatgcc ctcaaggctg tagacactgt cctgaagtac atgaccaagt 750  
ggatccagga gcggggctg caggaccgcc tgaacgcat tattttctcg 800  
gatcacggaa tgaccgacat tttctggatg gacaaagtga ttgagctgaa 850

taagtacatc agcctgaatg acctgcagca agtgaaggac cgcgggctg 900  
 ttgtgagcct ttggccggcc cctgggaaac actctgagat atataacaaa 950  
 ctgagcacag tggaacacat gactgtctac gagaaagaag ccatcccaag 1000  
 caggttctat tacaagaaaag gaaagtttgt ctctcctttg acttttagtgg 1050  
 ctgatgaagg ctggttcata actgagaatc gagagatgct tccgttttgg 1100  
 atgaacagca ccggcaggcg ggaaggttgg cagcgtggat ggcacggcta 1150  
 cgacaacgag ctcatggaca tgcggggcat cttcctggcc ttcggacctg 1200  
 atttcaaatc caacttcaga gctgctccta tcaggtcggt ggacgtctac 1250  
 aatgtcatgt gcaatgtggt gggcatcacc ccgctgcca acaacggatc 1300  
 ctggtccagg gtgatgtgca tgctgaaggg ccgcgccggc actgccccgc 1350  
 ctgtctggcc cagccactgt gccctggcac tgattcttct cttcctgctt 1400  
 gcataactga tcatattgct tgtctcagaa aaaaacacca tcagcaaagt 1450  
 gggcctccaa agccagatga ttttcatttt atgtgtgaat aatagcttca 1500  
 ttaacacaat caagaccatg cacattgtaa atacattatt cttggataat 1550  
 tctatacata aaagtctcta cttgttaaa 1579

<210> 9  
 <211> 440  
 <212> PRT  
 <213> Homo Sapien

<400> 9  
 Met Ala Val Lys Leu Gly Thr Leu Leu Leu Ala Leu Ala Leu Gly  
 1 5 10 15  
 Leu Ala Gln Pro Ala Ser Ala Arg Arg Lys Leu Leu Val Phe Leu  
 20 25 30  
 Leu Asp Gly Phe Arg Ser Asp Tyr Ile Ser Asp Glu Ala Leu Glu  
 35 40 45  
 Ser Leu Pro Gly Phe Lys Glu Ile Val Ser Arg Gly Val Lys Val  
 50 55 60  
 Asp Tyr Leu Thr Pro Asp Phe Pro Ser Leu Ser Tyr Pro Asn Tyr  
 65 70 75  
 Tyr Thr Leu Met Thr Gly Arg His Cys Glu Val His Gln Met Ile  
 80 85 90  
 Gly Asn Tyr Met Trp Asp Pro Thr Thr Asn Lys Ser Phe Asp Ile  
 95 100 105  
 Gly Val Asn Lys Asp Ser Leu Met Pro Leu Trp Trp Asn Gly Ser



	110	115	120
Glu Pro Leu Trp	Val Thr Leu Thr Lys	Ala Lys Arg Lys Val	Tyr
	125	130	135
Met Tyr Tyr Trp	Pro Gly Cys Glu Val	Glu Ile Leu Gly Val	Arg
	140	145	150
Pro Thr Tyr Cys	Leu Glu Tyr Lys Asn	Val Pro Thr Asp Ile	Asn
	155	160	165
Phe Ala Asn Ala	Val Ser Asp Ala Leu	Asp Ser Phe Lys Ser	Gly
	170	175	180
Arg Ala Asp Leu	Ala Ala Ile Tyr His	Glu Arg Ile Asp Val	Glu
	185	190	195
Gly His His Tyr	Gly Pro Ala Ser Pro	Gln Arg Lys Asp Ala	Leu
	200	205	210
Lys Ala Val Asp	Thr Val Leu Lys Tyr	Met Thr Lys Trp Ile	Gln
	215	220	225
Glu Arg Gly Leu	Gln Asp Arg Leu Asn	Val Ile Ile Phe Ser	Asp
	230	235	240
His Gly Met Thr	Asp Ile Phe Trp Met	Asp Lys Val Ile Glu	Leu
	245	250	255
Asn Lys Tyr Ile	Ser Leu Asn Asp Leu	Gln Gln Val Lys Asp	Arg
	260	265	270
Gly Pro Val Val	Ser Leu Trp Pro Ala	Pro Gly Lys His Ser	Glu
	275	280	285
Ile Tyr Asn Lys	Leu Ser Thr Val Glu	His Met Thr Val Tyr	Glu
	290	295	300
Lys Glu Ala Ile	Pro Ser Arg Phe Tyr	Tyr Lys Lys Gly Lys	Phe
	305	310	315
Val Ser Pro Leu	Thr Leu Val Ala Asp	Glu Gly Trp Phe Ile	Thr
	320	325	330
Glu Asn Arg Glu	Met Leu Pro Phe Trp	Met Asn Ser Thr Gly	Arg
	335	340	345
Arg Glu Gly Trp	Gln Arg Gly Trp His	Gly Tyr Asp Asn Glu	Leu
	350	355	360
Met Asp Met Arg	Gly Ile Phe Leu Ala	Phe Gly Pro Asp Phe	Lys
	365	370	375
Ser Asn Phe Arg	Ala Ala Pro Ile Arg	Ser Val Asp Val Tyr	Asn
	380	385	390
Val Met Cys Asn	Val Val Gly Ile Thr	Pro Leu Pro Asn Asn	Gly
	395	400	405

Ser Trp Ser Arg Val Met Cys Met Leu Lys Gly Arg Ala Gly Thr  
 410 415 420

Ala Pro Pro Val Trp Pro Ser His Cys Ala Leu Ala Leu Ile Leu  
 425 430 435

Leu Phe Leu Leu Ala  
 440

<210> 10  
 <211> 1047  
 <212> DNA  
 <213> Homo Sapien

<400> 10  
 gccaggtgtg caggccgctc caagcccagc ctgccccgct gccgccacca 50  
 tgacgctcct ccccgccctc ctgtttctga cctggctgca cacatgcctg 100  
 gccaccatg acccctccct cagggggcac cccacagtc acggtacccc 150  
 aactgctac tcggtgagg aactgcccct cggccaggcc ccccccacacc 200  
 tgctggctcg aggtgccaag tgggggcagg ctttgctgt agccctggtg 250  
 tccagcctgg aggcagcaag ccacaggggg aggcacgaga ggccctcagc 300  
 tacgaccag tgcccggtgc tgcggccgga ggaggtgttg gaggcagaca 350  
 cccaccagcg ctccatctca ccctggagat accgtgtgga cacggatgag 400  
 gaccgctatc cacagaagct ggccttcgcc gagtgcctgt gcagaggctg 450  
 tatcgatgca cggacgggcc gcgagacagc tgcgctcaac tccgtgcggc 500  
 tgctccagag cctgctggtg ctgcgccgcc ggccctgctc ccgcgacggc 550  
 tcggggctcc ccacacctgg ggcctttgcc ttccacaccg agttcatcca 600  
 cgtccccgtc ggctgcacct gcgtgctgcc ccgttcagtg tgaccgcoga 650  
 ggccgtgggg cccctagact ggacacgtgt gctccccaga gggcaccccc 700  
 tatttatgtg tatttattgt tatttatatg cctcccccaa cactaccctt 750  
 ggggtctggg cattccccgt gtctggagga cagccccca ctgttctcct 800  
 catctccagc ctcagtagtt gggggtagaa ggagctcagc acctcttcca 850  
 gcccttaaag ctgcagaaaa ggtgtcacac ggctgcctgt accttggtc 900  
 cctgtcctgc tcccggttc ccttacccta tcaactggcct caggccccgc 950  
 aggtgcctc ttcccaacct ccttgaagt acccctgttt cttaaacaat 1000  
 tatttaagtg tacgtgtatt attaaactga tgaacacatc cccaaaa 1047

<210> 11

<211> 197  
 <212> PRT  
 <213> Homo Sapien

<400> 11  
 Met Thr Leu Leu Pro Gly Leu Leu Phe Leu Thr Trp Leu His Thr  
           1                  5                  10                  15  
 Cys Leu Ala His His Asp Pro Ser Leu Arg Gly His Pro His Ser  
                   20                  25                  30  
 His Gly Thr Pro His Cys Tyr Ser Ala Glu Glu Leu Pro Leu Gly  
                   35                  40                  45  
 Gln Ala Pro Pro His Leu Leu Ala Arg Gly Ala Lys Trp Gly Gln  
                   50                  55                  60  
 Ala Leu Pro Val Ala Leu Val Ser Ser Leu Glu Ala Ala Ser His  
                   65                  70                  75  
 Arg Gly Arg His Glu Arg Pro Ser Ala Thr Thr Gln Cys Pro Val  
                   80                  85                  90  
 Leu Arg Pro Glu Glu Val Leu Glu Ala Asp Thr His Gln Arg Ser  
                   95                  100                  105  
 Ile Ser Pro Trp Arg Tyr Arg Val Asp Thr Asp Glu Asp Arg Tyr  
                   110                  115                  120  
 Pro Gln Lys Leu Ala Phe Ala Glu Cys Leu Cys Arg Gly Cys Ile  
                   125                  130                  135  
 Asp Ala Arg Thr Gly Arg Glu Thr Ala Ala Leu Asn Ser Val Arg  
                   140                  145                  150  
 Leu Leu Gln Ser Leu Leu Val Leu Arg Arg Arg Pro Cys Ser Arg  
                   155                  160                  165  
 Asp Gly Ser Gly Leu Pro Thr Pro Gly Ala Phe Ala Phe His Thr  
                   170                  175                  180  
 Glu Phe Ile His Val Pro Val Gly Cys Thr Cys Val Leu Pro Arg  
                   185                  190                  195  
 Ser Val

<210> 12  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 12  
 atccacagaa gctggccttc gccg 24

<210> 13  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 13  
gggacgtgga tgaactcggg gtgg 24

<210> 14  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 14  
tatccacaga agctggcctt cgccgagtgc ctgtgcagag 40

<210> 15  
<211> 660  
<212> DNA  
<213> Homo Sapien

<400> 15  
cggccagggc gccgacagcc cgacctcacc aggagaacat gcagctcggc 50  
actgggctcc tgetggccgc cgtcctgagc ctgcagctgg ctgcagccga 100  
agccatatgg tgtcaccagt gcacgggctt cggaggggtgc tcccatggat 150  
ccagatgcct gagggactcc acccactgtg tcaccactgc caccggggtc 200  
ctcagcaaca ccgaggattt gcctctgggc accaagatgt gccacatagg 250  
ctgccccgat atccccagcc tgggcctggg cccctacgta tccatcgctt 300  
gctgccagac cagcctctgc aaccatgact gacggctgcc ctccctccagg 350  
cccccgagc ctcagcccc acagcccca cagcctggcg ccagggtca 400  
cggccgcccc tccctcgaga ctggccagcc cacctctccc ggcctctgca 450  
gccaccgtcc agcaccgctt gtcctagga agtcctgcgt ggagtcttgc 500  
ctcaatctgc tgccgtccaa gcctggggcc catcgtgcct gccgcccctt 550  
caggtcccga cctccccaca ataaaatgtg attggatcgt gtggtacaaa 600  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 650  
aaaaaaaaa 660

<210> 16  
<211> 97

<212> PRT  
 <213> Homo Sapien

<400> 16  
 Met Gln Leu Gly Thr Gly Leu Leu Leu Ala Ala Val Leu Ser Leu  
 1 5 10 15  
 Gln Leu Ala Ala Ala Glu Ala Ile Trp Cys His Gln Cys Thr Gly  
 20 25 30  
 Phe Gly Gly Cys Ser His Gly Ser Arg Cys Leu Arg Asp Ser Thr  
 35 40 45  
 His Cys Val Thr Thr Ala Thr Arg Val Leu Ser Asn Thr Glu Asp  
 50 55 60  
 Leu Pro Leu Val Thr Lys Met Cys His Ile Gly Cys Pro Asp Ile  
 65 70 75  
 Pro Ser Leu Gly Leu Gly Pro Tyr Val Ser Ile Ala Cys Cys Gln  
 80 85 90  
 Thr Ser Leu Cys Asn His Asp  
 95

<210> 17  
 <211> 2570  
 <212> DNA  
 <213> Homo Sapien

<400> 17  
 ccaggaccag ggcgcaccgg ctcagcctct cacttgctcag aggccgggga 50  
 agagaagcaa agcgcaacgg tgtggtccaa gccgggggctt ctgcttcgcc 100  
 tctaggacat acacgggacc ccctaacttc agtcccccaa acgcgcaccc 150  
 tcgaagtctt gaactccagc cccgcacatc cacgcgcggc acaggcgcgg 200  
 caggcggcag gtccccggccg aaggcgatgc gcgcaggggg tcgggacagct 250  
 gggctcgggc gccggggagta gggcccggca gggaggcagg gaggctgcat 300  
 attcagagtc gcgggctgcg ccctgggcag aggccgccct cgctccacgc 350  
 aacacctgct gctgccaccg cgccgcgatg agccgcgtgg tctcgctgct 400  
 gctgggcgcc gcgctgctct gcggccacgg agccttctgc cgccgcgtgg 450  
 tcagcggcca aaaggtgtgt tttgctgact tcaagcatcc ctgctacaaa 500  
 atggcctact tccatgaact gtccagccga gtgagctttc aggaggcacg 550  
 cctggcttgt gagagtgagg gaggagtcct cctcagcctt gagaatgaag 600  
 cagaacagaa gttaatagag agcatgttgc aaaacctgac aaaaccggg 650  
 acagggattt ctgatggtga tttctggata gggctttgga ggaatggaga 700

tgggcaaaca tctgggtgect gccagatct ctaccagtgg tctgatggaa 750  
 gcaattccca gtaccgaaac tggtagacag atgaaccttc ctgcggaagt 800  
 gaaaagtgtg ttgtgatgta tcaccaacca actgccaatc ctggccttgg 850  
 gggtccttac ctttaccagt ggaatgatga caggtgtaac atgaagcaca 900  
 attatatttg caagtatgaa ccagagatta atccaacagc ccctgtagaa 950  
 aagccttatc ttacaaatca accaggagac acccatcaga atgtggttgt 1000  
 tactgaagca ggtataattc ccaatctaatt ttatgttggtt ataccaacaa 1050  
 taccctgct cttactgata ctggttgctt ttggaacctg ttgtttccag 1100  
 atgctgcata aaagtaaagg aagaacaaaa actagtccaa accagtctac 1150  
 actgtggatt tcaaagagta ccagaaaaga aagtggcatg gaagtataat 1200  
 aactcattga cttgggtcca gaattttgta attctggatc tgtataagga 1250  
 atggcatcag aacaatagct tggaatggct tgaaatcaca aaggatctgc 1300  
 aagatgaact gtaagctccc ccttgaggca aatattaaag taatttttat 1350  
 atgtctatta tttcatttaa agaatatgct gtgctaataa tggagtgaga 1400  
 catgcttatt ttgctaaagg atgcacccaa acttcaaact tcaagcaaatt 1450  
 gaaatggaca atgcagataa agttgttatc aacacgtcgg gagtatgtgt 1500  
 gttagaagca attcctttta tttctttcac ctttcataag ttgttatcta 1550  
 gtcaatgtaa tgtatattgt attgaaattt acagtgtgca aaagtatttt 1600  
 acctttgcat aagtgtttga taaaaatgaa ctgttctaatt atttattttt 1650  
 atggcatctc atttttcaat acatgctctt ttgattaaag aaacttatta 1700  
 ctgttgtaa ctgaattcac acacacacaa atatagtacc atagaaaaag 1750  
 tttgttttct cgaaataatt catctttcag cttctctgct tttggtcaat 1800  
 gtctaggaaa tctcttcaga aataagaagc tatttcatta agtgtgatat 1850  
 aaacctctc aaacatttta cttagaggca aggattgtct aatttcaatt 1900  
 gtgcaagaca tgtgccttat aattattttt agcttaaaat taaacagatt 1950  
 ttgtaataat gtaactttgt taatagggtc ataaacacta atgcagtcaa 2000  
 tttgaacaaa agaagtgaca tacacaatat aaatcatatg tcttcacacg 2050  
 ttgcctatat aatgagaagc agctctctga gggttctgaa atcaatgtgg 2100  
 tccctctctt gccactaaa caaagatggg tgttcggggg ttgggattga 2150

cactggaggc agatagttgc aaagttagtc taaggtttcc ctagctgtat 2200  
 ttagcctctg actatattag tatacaaaga ggtcatgtgg ttgagaccag 2250  
 gtgaatagtc actatcagtg tggagacaag cacagcacac agacatttta 2300  
 ggaaggaaag gaactacgaa atcgtgtgaa aatgggttgg aacccatcag 2350  
 tgatcgcata ttcattgatg agggtttgct tgagatagaa aatgggtggct 2400  
 cctttctgtc ttatctccta gtttcttcaa tgcttacgcc ttgttcttct 2450  
 caagagaaag ttgtaactct ctgggtcttca tatgtccctg tgctcctttt 2500  
 aaccaaataa agagttcttg tttctggggg aaaaaaaaaa aaaaaaaaaa 2550  
 aaaaaaaaaa aaaaaaaaaa 2570

<210> 18  
 <211> 273  
 <212> PRT  
 <213> Homo Sapien

<400> 18  
 Met Ser Arg Val Val Ser Leu Leu Leu Gly Ala Ala Leu Leu Cys  
 1 5 10 15  
 Gly His Gly Ala Phe Cys Arg Arg Val Val Ser Gly Gln Lys Val  
 20 25 30  
 Cys Phe Ala Asp Phe Lys His Pro Cys Tyr Lys Met Ala Tyr Phe  
 35 40 45  
 His Glu Leu Ser Ser Arg Val Ser Phe Gln Glu Ala Arg Leu Ala  
 50 55 60  
 Cys Glu Ser Glu Gly Gly Val Leu Leu Ser Leu Glu Asn Glu Ala  
 65 70 75  
 Glu Gln Lys Leu Ile Glu Ser Met Leu Gln Asn Leu Thr Lys Pro  
 80 85 90  
 Gly Thr Gly Ile Ser Asp Gly Asp Phe Trp Ile Gly Leu Trp Arg  
 95 100 105  
 Asn Gly Asp Gly Gln Thr Ser Gly Ala Cys Pro Asp Leu Tyr Gln  
 110 115 120  
 Trp Ser Asp Gly Ser Asn Ser Gln Tyr Arg Asn Trp Tyr Thr Asp  
 125 130 135  
 Glu Pro Ser Cys Gly Ser Glu Lys Cys Val Val Met Tyr His Gln  
 140 145 150  
 Pro Thr Ala Asn Pro Gly Leu Gly Gly Pro Tyr Leu Tyr Gln Trp  
 155 160 165  
 Asn Asp Asp Arg Cys Asn Met Lys His Asn Tyr Ile Cys Lys Tyr

	170	175	180
Glu Pro Glu Ile	Asn Pro Thr Ala Pro	Val Glu Lys Pro Tyr	Leu
	185	190	195
Thr Asn Gln Pro	Gly Asp Thr His Gln	Asn Val Val Val Thr	Glu
	200	205	210
Ala Gly Ile Ile	Pro Asn Leu Ile Tyr	Val Val Ile Pro Thr	Ile
	215	220	225
Pro Leu Leu Leu	Leu Ile Leu Val Ala	Phe Gly Thr Cys Cys	Phe
	230	235	240
Gln Met Leu His	Lys Ser Lys Gly Arg	Thr Lys Thr Ser Pro	Asn
	245	250	255
Gln Ser Thr Leu	Trp Ile Ser Lys Ser	Thr Arg Lys Glu Ser	Gly
	260	265	270
Met Glu Val			

<210> 19  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 19  
 caccaaccaa ctgccaatcc tggc 24

<210> 20  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 20  
 accacattct gatgggtgtc tcctgg 26

<210> 21  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 21  
 gggtcacctac ctttaccagt ggaatgatga cagggtgaac atgaagcac 49

<210> 22  
 <211> 3824



<212> DNA  
<213> Homo Sapien

<400> 22  
ggagaatgga gagagcagtg agagtggagt ccggggtcct ggtcggggtg 50  
gtctgtctgc tcctggcatg ccctgccaca gccactgggc ccgaagttgc 100  
tcagcctgaa gtagacacca ccctgggtcg tgtgcgaggc cggcaggtgg 150  
gcgtgaaggg cacagaccgc cttgtgaatg tctttctggg cattccattt 200  
gcccagccgc cactgggccc tgaccggttc tcagccccac acccagcaca 250  
gccctgggag ggtgtgcggg atgccagcac tgcgccccca atgtgcctac 300  
aagacgtgga gagcatgaac agcagcagat ttgtcctcaa cggaaaacag 350  
cagatcttct ccgtttcaga ggactgcctg gtccctcaacg tctatagccc 400  
agctgaggtc cccgcagggc ccggtaggcc ggtcatggta tgggtccatg 450  
gaggcgtctc gataactggc gctgccacct cctacgatgg atcagctctg 500  
gctgcctatg gggatgtggc cgtgggttaca gtccagtacc gccttggggc 550  
ccttggtctc ttcagcactg gagatgagca tgcacctggc aaccagggct 600  
tcctagatgt ggtagctgct ttgcgctggg tgcaagaaaa catcgcccc 650  
ttcgggggtg acctcaactg tgtcactgtc tttgggtggat ctgccggtgg 700  
gagcatcatc tctggcctgg tcctgtcccc agtggctgca gggctgttcc 750  
acagagccat cacacagagt ggggtcatca ccacccagg gatcatcgac 800  
tctcacccct ggcccctagc tcagaaaatc gcaaacacct tggcctgcag 850  
ctccagctcc ccggctgaga tgggtgcagt ccttcagcag aaagaaggag 900  
aagagctggc ccttagcaag aagctgaaaa atactatcta tcctctcacc 950  
gttgatggca ctgtcttccc caaaagcccc aaggaactcc tgaaggagaa 1000  
gcccttccac tctgtgcctc tcctcatggg tgtcaacaac catgagttca 1050  
gctggctcat ccccaggggc tggggtctcc tggatacaat ggagcagatg 1100  
agccgggagg acatgctggc catctcaaca ccgtcttga ccagtctgga 1150  
tgtgccccct gagatgatgc ccaccgtcat agatgaatac ctaggaagca 1200  
actcggacgc acaagccaaa tgccaggcgt tccaggaatt catgggtgac 1250  
gtattcatca atgttcccac cgtcagtttt tcaagatacc ttcgagattc 1300  
tggaagccct gtctttttct atgagttcca gcatcgaccc agttcttttg 1350

cgaagatcaa acctgcctgg gtgaaggctg atcatggggc cgagggtgct 1400  
tttgtgttcg gaggtccctt cctcatggac gagagctccc gcctggcctt 1450  
tccagaggcc acagaggagg agaagcagct aagcctcacc atgatggccc 1500  
agtggaccca ctttgcccgg acaggggacc ccaatagcaa ggctctgcct 1550  
ccttggtccc aattcaacca ggcggaacaa tatctggaga tcaaccagt 1600  
gccacggggc ggacagaagt tcagggaggc ctggatgcag ttctggtcag 1650  
agacgctccc cagcaagata caacagtggc accagaagca gaagaacagg 1700  
aaggcccagg aggacctctg aggccaggcc tgaaccttct tggtggggc 1750  
aaaccactct tcaagtggg gcagagtccc agcacggcag cccgcctctc 1800  
cccctgctga gactttaatc tccaccagcc cttaaagtgt cggccgctct 1850  
gtgactggag ttatgctctt ttgaaatgtc acaaggccgc ctcccacctc 1900  
tggggcattg tacaagttct tccctctccc tgaagtgcct ttctgcttt 1950  
cttcgtggta ggttctagca cattcctcta gcttctgga ggactcactc 2000  
cccaggaagc ctccctgcc ttctctgggc tgtgcggccc cgagtctgcg 2050  
tccattagag cacagtccac ccgaggetag caccgtgtct gtgtctgtct 2100  
ccccctcaga ggagctctct caaaatgggg attagcctaa cccactctg 2150  
tcaccacac caggatcggg tgggacctgg agctaggggg tgtttgctga 2200  
gtgagtgagt gaaacacaga atatgggaat ggcagctgct gaacttgaac 2250  
ccagagcctt caggtgccaa agccatactc agggccccac cgacattgtc 2300  
caccctggcc agaagggtgc atgccaatgg cagagacctg ggatgggaga 2350  
agtcctgggg cgccagggga tccagcctag agcagacctt agccccctgac 2400  
taaggcctca gactagggcg ggaggggtct cctcctctct gctgcccagt 2450  
cctggccccct gcacaagaca acagaatcca tcagggccat gagtgtcacc 2500  
cagacctgac cctcaccaat tccagccccct gaccctcagg acgctggatg 2550  
ccagctccca gccccagtgc cgggtcctcc ctcccttctt ggcttgggga 2600  
gaccagtttc tggggagctt ccaagagcac ccaccaagac acagcaggac 2650  
aggccagggg agggcatctg gaccagggca tccgtcgggc tattgtcaca 2700  
gagaaaagaa gagaccacc cactcgggct gcaaaagggtg aaaagcacca 2750  
agaggttttc agatggaagt gagaggtgac agtgtgctgg cagccctcac 2800

agccctcgct tgcctccct gccgcctctg cctgggctcc cactttggca 2850  
 gcacttgagg agcccttcaa ccgcccgtg cactgtagga gcccctttct 2900  
 gggctggcca aggccggagc cagctccctc agcttgcggg gaggtgcgga 2950  
 gggagagggg cgggcaggaa ccggggctgc gcgcagcgct tgcgggccag 3000  
 agtgagttcc gggtgggcgt gggctcgggc gggccccact cagagcagct 3050  
 ggccggcccc aggcagttag ggccttagca cctggggccag cagctgctgt 3100  
 gctcgatttc tgcctgggccc ttagctgcct ccccgcgggg cagggtcgg 3150  
 gacctgcagc cctccatgcc tgacctccc cccaccccc gtgggtcct 3200  
 gtgcggccgg agcctcccca aggagcgccg cccctgctc cacagcgccc 3250  
 agtcccatcg accaccaag ggctgaggag tgcgggtgca cagcgcgga 3300  
 ctggcaggca gctccacctg ctgccccagt gctggatcca ctgggtgaag 3350  
 ccagctgggc tctgagtct ggtggggact tggagaacct ttatgtctag 3400  
 ctaagggatt gtaaatacac cgatgggcac tctgtatcta gctcaagggt 3450  
 tgtaaacaca ccaatcagca ccctgtgtct agctcagtgt ttgtgaatgc 3500  
 accaatccac actctgtatc tggtactct ggtggggact tggagaacct 3550  
 ttgtgtccac actctgtatc tagctaact agtggggatg tggagaacct 3600  
 ttgtgtctag ctgaggatc gtaaacgcac caatcagcac cctgtcaaaa 3650  
 cagaccactt gactctctgt aaaatggacc aatcagcagg atgtgggtgg 3700  
 ggcgagacaa gagaataaaa gcaggctgcc tgagccagca gtgacaaccc 3750  
 ccctcggtgc ccctcccacg ccgtggaagc tttgttcttt cgtctttgc 3800  
 aataaatctt gctactgcc aaaa 3824

<210> 23  
 <211> 571  
 <212> PRT  
 <213> Homo Sapien

<400> 23  
 Met Glu Arg Ala Val Arg Val Glu Ser Gly Val Leu Val Gly Val 15  
 1 5 10  
 Val Cys Leu Leu Leu Ala Cys Pro Ala Thr Ala Thr Gly Pro Glu 30  
 20 25 30  
 Val Ala Gln Pro Glu Val Asp Thr Thr Leu Gly Arg Val Arg Gly 45  
 35 40 45  
 Arg Gln Val Gly Val Lys Gly Thr Asp Arg Leu Val Asn Val Phe

50										55					60				
Leu	Gly	Ile	Pro	Phe	Ala	Gln	Pro	Pro	Leu	Gly	Pro	Asp	Arg	Phe					
				65					70					75					
Ser	Ala	Pro	His	Pro	Ala	Gln	Pro	Trp	Glu	Gly	Val	Arg	Asp	Ala					
				80					85					90					
Ser	Thr	Ala	Pro	Pro	Met	Cys	Leu	Gln	Asp	Val	Glu	Ser	Met	Asn					
				95					100					105					
Ser	Ser	Arg	Phe	Val	Leu	Asn	Gly	Lys	Gln	Gln	Ile	Phe	Ser	Val					
				110					115					120					
Ser	Glu	Asp	Cys	Leu	Val	Leu	Asn	Val	Tyr	Ser	Pro	Ala	Glu	Val					
				125					130					135					
Pro	Ala	Gly	Ser	Gly	Arg	Pro	Val	Met	Val	Trp	Val	His	Gly	Gly					
				140					145					150					
Ala	Leu	Ile	Thr	Gly	Ala	Ala	Thr	Ser	Tyr	Asp	Gly	Ser	Ala	Leu					
				155					160					165					
Ala	Ala	Tyr	Gly	Asp	Val	Val	Val	Val	Thr	Val	Gln	Tyr	Arg	Leu					
				170					175					180					
Gly	Val	Leu	Gly	Phe	Phe	Ser	Thr	Gly	Asp	Glu	His	Ala	Pro	Gly					
				185					190					195					
Asn	Gln	Gly	Phe	Leu	Asp	Val	Val	Ala	Ala	Leu	Arg	Trp	Val	Gln					
				200					205					210					
Glu	Asn	Ile	Ala	Pro	Phe	Gly	Gly	Asp	Leu	Asn	Cys	Val	Thr	Val					
				215					220					225					
Phe	Gly	Gly	Ser	Ala	Gly	Gly	Ser	Ile	Ile	Ser	Gly	Leu	Val	Leu					
				230					235					240					
Ser	Pro	Val	Ala	Ala	Gly	Leu	Phe	His	Arg	Ala	Ile	Thr	Gln	Ser					
				245					250					255					
Gly	Val	Ile	Thr	Thr	Pro	Gly	Ile	Ile	Asp	Ser	His	Pro	Trp	Pro					
				260					265					270					
Leu	Ala	Gln	Lys	Ile	Ala	Asn	Thr	Leu	Ala	Cys	Ser	Ser	Ser	Ser					
				275					280					285					
Pro	Ala	Glu	Met	Val	Gln	Cys	Leu	Gln	Gln	Lys	Glu	Gly	Glu	Glu					
				290					295					300					
Leu	Val	Leu	Ser	Lys	Lys	Leu	Lys	Asn	Thr	Ile	Tyr	Pro	Leu	Thr					
				305					310					315					
Val	Asp	Gly	Thr	Val	Phe	Pro	Lys	Ser	Pro	Lys	Glu	Leu	Leu	Lys					
				320					325					330					
Glu	Lys	Pro	Phe	His	Ser	Val	Pro	Phe	Leu	Met	Gly	Val	Asn	Asn					
				335					340					345					

His	Glu	Phe	Ser	Trp	Leu	Ile	Pro	Arg	Gly	Trp	Gly	Leu	Leu	Asp	
				350					355					360	
Thr	Met	Glu	Gln	Met	Ser	Arg	Glu	Asp	Met	Leu	Ala	Ile	Ser	Thr	
				365					370					375	
Pro	Val	Leu	Thr	Ser	Leu	Asp	Val	Pro	Pro	Glu	Met	Met	Pro	Thr	
				380					385					390	
Val	Ile	Asp	Glu	Tyr	Leu	Gly	Ser	Asn	Ser	Asp	Ala	Gln	Ala	Lys	
				395					400					405	
Cys	Gln	Ala	Phe	Gln	Glu	Phe	Met	Gly	Asp	Val	Phe	Ile	Asn	Val	
				410					415					420	
Pro	Thr	Val	Ser	Phe	Ser	Arg	Tyr	Leu	Arg	Asp	Ser	Gly	Ser	Pro	
				425					430					435	
Val	Phe	Phe	Tyr	Glu	Phe	Gln	His	Arg	Pro	Ser	Ser	Phe	Ala	Lys	
				440					445					450	
Ile	Lys	Pro	Ala	Trp	Val	Lys	Ala	Asp	His	Gly	Ala	Glu	Gly	Ala	
				455					460					465	
Phe	Val	Phe	Gly	Gly	Pro	Phe	Leu	Met	Asp	Glu	Ser	Ser	Arg	Leu	
				470					475					480	
Ala	Phe	Pro	Glu	Ala	Thr	Glu	Glu	Glu	Lys	Gln	Leu	Ser	Leu	Thr	
				485					490					495	
Met	Met	Ala	Gln	Trp	Thr	His	Phe	Ala	Arg	Thr	Gly	Asp	Pro	Asn	
				500					505					510	
Ser	Lys	Ala	Leu	Pro	Pro	Trp	Pro	Gln	Phe	Asn	Gln	Ala	Glu	Gln	
				515					520					525	
Tyr	Leu	Glu	Ile	Asn	Pro	Val	Pro	Arg	Ala	Gly	Gln	Lys	Phe	Arg	
				530					535					540	
Glu	Ala	Trp	Met	Gln	Phe	Trp	Ser	Glu	Thr	Leu	Pro	Ser	Lys	Ile	
				545					550					555	
Gln	Gln	Trp	His	Gln	Lys	Gln	Lys	Asn	Arg	Lys	Ala	Gln	Glu	Asp	
				560					565					570	

Leu

<210> 24

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 24

gcaaagctct gcctccttgg cc 22

<210> 25  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 25  
gggtggactg tgctctaag gacgc 25

<210> 26  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 26  
cgtggcactg ggttgatc 18

<210> 27  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 27  
gatgcagttc tggtcagaga cgctccccag caagatacaa cagtg 45

<210> 28  
<211> 1342  
<212> DNA  
<213> Homo Sapien

<400> 28  
catggagcct cttgcagctt acccgctaaa atgttccggg cccagagcaa 50  
aggtatttgc agttttgctg tctatagttc tatgcacagt aacgctattt 100  
cttctacaac taaaattcct caaacctaaa atcaacagct tttatgcctt 150  
tgaagtgaag gatgcaaaag gaagaactgt ttctctggaa aagtataaag 200  
gcaaagtttc actagttgta aacgtggcca gtgactgcca actcacagac 250  
agaaattact tagggctgaa ggaactgcac aaagagtttg gaccatccca 300  
cttcagcgtg ttggcttttc cctgcaatca gtttggagaa tcggagcccc 350  
gcccagcaa ggaagtagaa tcttttgcaa gaaaaacta cggagtaact 400  
ttccccatct tccacaagat taagattcta ggatctgaag gagaacctgc 450  
atntagattt cttgttgatt cttcaaagaa ggaaccaagg tggaattttt 500

ggaagtatct tgtcaaccct gaggggtcaag ttgtgaagtt ctggaggcca 550  
 gaggagccca ttgaagtcac caggcctgac atagcagctc tggtagaca 600  
 agtgatcata aaaaagaaag aggatctatg agaatgccat tgcgtttcta 650  
 atagaacaga gaaatgtctc catgagggtt tgggtctcatt ttaaacttt 700  
 tttttttgga gacagtgtct cactctgtca cccaggctgg agtgcagtag 750  
 tgcgtttctc gctcattgca acctctgcct ttttaaactat gctattaaat 800  
 gtggcaatga aggatttttt tttaatgtta tcttgctatt aagtggtaat 850  
 gaatgttccc aggatgagga tgttaccaa agcaaaaatc aagagtagcc 900  
 aaagaatcaa catgaaatat attactact tcctctgacc atactaaaga 950  
 attcagaata cacagtgacc aatgtgcctc aatatcttat tgttcaactt 1000  
 gacattttct aggactgtac ttgatgaaa tgccaacaca ctagaccact 1050  
 ctttggtatc aagagcactg tgtatgactg aaatttctgg aataactgta 1100  
 aatggttatg ttaatggaat aaaacacaaa tgttgaaaaa tgtaaaatat 1150  
 atatacatag attcaaactc ttatatatgt atgcttggtt tgtgtacagg 1200  
 attttggttt ttctttttta gtacagggtc ctagtgtttt actataactg 1250  
 tcactatgta tgtaactgac atatataaat agtcatttat aaatgaccgt 1300  
 attataacat ttgaaaaagt cttcatcaaa aaaaaaaaaa aa 1342

<210> 29  
 <211> 209  
 <212> PRT  
 <213> Homo Sapien

<400> 29  
 Met Glu Pro Leu Ala Ala Tyr Pro Leu Lys Cys Ser Gly Pro Arg  
 1 5 10 15  
 Ala Lys Val Phe Ala Val Leu Leu Ser Ile Val Leu Cys Thr Val  
 20 25 30  
 Thr Leu Phe Leu Leu Gln Leu Lys Phe Leu Lys Pro Lys Ile Asn  
 35 40 45  
 Ser Phe Tyr Ala Phe Glu Val Lys Asp Ala Lys Gly Arg Thr Val  
 50 55 60  
 Ser Leu Glu Lys Tyr Lys Gly Lys Val Ser Leu Val Val Asn Val  
 65 70 75  
 Ala Ser Asp Cys Gln Leu Thr Asp Arg Asn Tyr Leu Gly Leu Lys  
 80 85 90

Glu	Leu	His	Lys	Glu	Phe	Gly	Pro	Ser	His	Phe	Ser	Val	Leu	Ala
				95					100					105
Phe	Pro	Cys	Asn	Gln	Phe	Gly	Glu	Ser	Glu	Pro	Arg	Pro	Ser	Lys
				110					115					120
Glu	Val	Glu	Ser	Phe	Ala	Arg	Lys	Asn	Tyr	Gly	Val	Thr	Phe	Pro
				125					130					135
Ile	Phe	His	Lys	Ile	Lys	Ile	Leu	Gly	Ser	Glu	Gly	Glu	Pro	Ala
				140					145					150
Phe	Arg	Phe	Leu	Val	Asp	Ser	Ser	Lys	Lys	Glu	Pro	Arg	Trp	Asn
				155					160					165
Phe	Trp	Lys	Tyr	Leu	Val	Asn	Pro	Glu	Gly	Gln	Val	Val	Lys	Phe
				170					175					180
Trp	Arg	Pro	Glu	Glu	Pro	Ile	Glu	Val	Ile	Arg	Pro	Asp	Ile	Ala
				185					190					195
Ala	Leu	Val	Arg	Gln	Val	Ile	Ile	Lys	Lys	Lys	Glu	Asp	Leu	
				200					205					

<210> 30  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 30  
 atcctccaac atggagcctc ttgc 24

<210> 31  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 31  
 gtatcttgtc aaccctgagg 20

<210> 32  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 32  
 taaccagagc tgctatgtca ggcc 24

<210> 33



<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 33  
aggcaaagtt tcactagttg taaacgtggc cagtgactgc caactcacag 50

<210> 34  
<211> 3721  
<212> DNA  
<213> Homo Sapien

<400> 34  
tgtcgctgg ccctcgccat gcagaccccg cgagcgtccc ctccccgccc 50  
ggccctcctg cttctgctgc tgctactggg gggcgccac ggctctttc 100  
ctgaggagcc gccgcgctt agcgtggccc ccagggacta cctgaaccac 150  
tatcccggtg ttgtgggcag cgggcccga cgctgaccc ccgcagaagg 200  
tgctgacgac ctcaacatcc agcgagtcct gcgggtcaac aggacgctgt 250  
tcattgggga cagggacaac ctctaccgag tagagctgga gccccccacg 300  
tccacggagc tgcggtacca gaggaagctg acctggagat ctaacccag 350  
cgacataaac gtgtgtcgga tgaagggcaa acaggagggc gagtgtcgaa 400  
acttcgtaaa ggtgctgctc ctctgggacg agtccacgct ctttgtgtgc 450  
ggttccaacg ctttcaaccc ggtgtgcgcc aactacagca tagacaccct 500  
gcagcccgtc ggagacaaca tcagcggtat ggcccgtgc ccgtacgacc 550  
ccaagcacgc caatgttgcc ctcttctctg acgggatgct cttcacagct 600  
actgttaccg acttcctagc cattgatgct gtcattacc gcagcctcgg 650  
ggacaggccc accctgcgca ccgtgaaaca tgactccaag tggttcaaag 700  
agccttactt tgtccatgcg gtggagtggg gcagccatgt ctactttctc 750  
ttccgggaga ttgcgatgga gtttaactac ctggagaagg tgggtgtgtc 800  
ccgcgtggcc cgagtgtgca agaacgacgt gggaggctcc ccccgctgc 850  
tggagaagca gtggacgtcc ttctgaagg cgcggtcaa ctgctctgta 900  
cccggagact cccatttcta cttcaacgtg ctgcaggctg tcacgggcgt 950  
ggtcagcctc gggggccggc ccgtggctct ggccgttttt tccacgcca 1000  
gcaacagcat ccctggctcg gctgtctgcg cctttgacct gacacaggtg 1050

gcagctgtgt ttgaaggccg cttccgagag cagaagtccc ccgagtccat 1100  
ctggacgccg gtgccggagg atcaggtgcc tcgaccccg cccgggtgct 1150  
gcgcagcccc cgggatgcag tacaatgcct ccagcgcctt gccggatgac 1200  
atcctcaact ttgtcaagac ccacctctg atggacgagg cggtgccctc 1250  
gctgggcat gcgccctgga tcctgaggac cctgatgagg caccagctga 1300  
ctcgagtggc tgtggacgtg ggagccggcc cctggggcaa ccagaccgtt 1350  
gtcttctctg gttctgaggc ggggacggtc ctcaagttcc tcgtccggcc 1400  
caatgccagc acctcagga cgtctgggct cagtgtcttc ctggaggagt 1450  
ttgagaccta ccggccggac aggtgtggac ggcccggcgg tggcgagaca 1500  
gggcagcggc tgctgagctt ggagctggac gcagcttcgg ggggcctgct 1550  
ggctgccttc ccccgctgcg tggtcgagt gcctgtggct cgctgccagc 1600  
agtactcggg gtgtatgaag aactgtatcg gcagtcagga cccctactgc 1650  
gggtgggccc ccgacggctc ctgcatcttc ctgaccccg gcaccagagc 1700  
cgcctttgag caggacgtgt ccggggccag cacctcaggc ttaggggact 1750  
gcacaggact cctgcgggccc agcctctccg aggaccgcgc ggggctggtg 1800  
tcggtgaacc tgctggtaac gtcgtcggcg gcggccttcg tgggtgggagc 1850  
cgtggtgtcc ggcttcagcg tgggctgggt cgtgggcctc cgtgagcggc 1900  
gggagctggc ccggcgcaag gacaaggagg ccatoctggc gcacggggcg 1950  
ggcgaggcgg tgctgagcgt cagccgcctg ggcgagcgca gggcgaggg 2000  
tccccggggc cggggcgag gcggtggcgg tggcgccggg gttcccccg 2050  
aggccctgct ggcgcccctg atgcagaacg gctggggcaa ggccacgctg 2100  
ctgcagggcg ggccccacga cctggactcg gggctgctgc ccacgcccga 2150  
gcagacgccg ctgccgcaga agcgctgcc cactccgcac ccgcaccccc 2200  
acgccctggg cccccgcgc tgggaccacg gccaccccct gctcccggcc 2250  
tccgcttcat cctccctcct gctgctggcg cccgcccggg cccccgagca 2300  
gcccccgcg cctggggagc cgacccccga cggcgcctc tatgctgccc 2350  
ggccccggcg cgcctccac ggcgacttcc cgctacccc ccacgccagc 2400  
ccggaccgcc ggcgggtggt gtccgcgcc acgggcccct tggaccagc 2450  
ctcagccgc gatggcctcc cgcggccctg gagcccgccc ccgacgggca 2500

gcctgaggag gccactgggc cccacgccc ctccggccgc caccctgcgc 2550  
cgcaccacaca cggttaacag cggcgaggcc cggcctgggg accgccaccg 2600  
cggctgccac gcccgccgg gcacagactt ggcccacctc ctcccctatg 2650  
ggggggcgga caggactgcg cccccgtgc cctaggccgg gggccccccg 2700  
atgccttggc agtgccagcc acgggaacca ggagcgagag acggtgccag 2750  
aacgccgggg cccggggcaa ctccgagtgg gtgctcaagt ccccccgcg 2800  
accacccgc ggagtggggg gcccctccg ccacaaggaa gcacaaccag 2850  
ctcgccctcc ccctaccgg ggccgcagga cgctgagacg gtttgggggt 2900  
gggtgggcgg gaggactttg ctatggattt gaggttgacc ttatgcgcgt 2950  
aggttttggt ttttttttgc agttttggtt tcttttgcg ttttctaacc 3000  
aattgcacaa ctccgttctc ggggtggcg caggcagggg aggcttggac 3050  
gccggtgggg aatggggggc cacagctgca gacctagcc ctccccacc 3100  
cctggaaagg tccctcccca acccaggccc ctggcggtg tgggtgtgcg 3150  
tgctgtgcg tgccgtgttc gtgtgcaagg gcccggggag gtggcggtgt 3200  
gtgtgcgtgc cagcgaaggc tgctgtgggc gtgtgtgtca agtgggccac 3250  
gcgtgcaggg tgtgtgtcca cgagcgacga tcgtggtggc ccagcgggc 3300  
tggcggttg ctgagccgac gctggggctt ccagaaggcc cgggggtctc 3350  
cgaggtgccg gttaggagt tgaaccccc cactctgca gagggaagcg 3400  
gggacaatgc cggggtttca ggcaggagac acgaggagg cctgcccga 3450  
agtcacatcg gcagcagctg tctaaaggc ttgggggcct ggggggcggc 3500  
gaaggtgggt ggggcccctc tgtaaatacg gcccagggt ggtgagagag 3550  
tcccatgcca ccgctccct tgtgacctc ccctatgac ctccagctga 3600  
ccatgcatgc cacgtggctg gctgggtcct ctgccctct tggagtgtgc 3650  
ctccccagc cccctccca tcaataaac tctgtttaca accaaaaaaa 3700  
aaaaaaaaa aaaaaaaaaa a 3721

<210> 35  
<211> 888  
<212> PRT  
<213> Homo Sapien

<400> 35  
Met Gln Thr Pro Arg Ala Ser Pro Pro Arg Pro Ala Leu Leu Leu  
1 5 10 15

Leu Leu Leu Leu Leu Gly Gly Ala His Gly Leu Phe Pro Glu Glu  
 20 25 30  
 Pro Pro Pro Leu Ser Val Ala Pro Arg Asp Tyr Leu Asn His Tyr  
 35 40 45  
 Pro Val Phe Val Gly Ser Gly Pro Gly Arg Leu Thr Pro Ala Glu  
 50 55 60  
 Gly Ala Asp Asp Leu Asn Ile Gln Arg Val Leu Arg Val Asn Arg  
 65 70 75  
 Thr Leu Phe Ile Gly Asp Arg Asp Asn Leu Tyr Arg Val Glu Leu  
 80 85 90  
 Glu Pro Pro Thr Ser Thr Glu Leu Arg Tyr Gln Arg Lys Leu Thr  
 95 100 105  
 Trp Arg Ser Asn Pro Ser Asp Ile Asn Val Cys Arg Met Lys Gly  
 110 115 120  
 Lys Gln Glu Gly Glu Cys Arg Asn Phe Val Lys Val Leu Leu Leu  
 125 130 135  
 Arg Asp Glu Ser Thr Leu Phe Val Cys Gly Ser Asn Ala Phe Asn  
 140 145 150  
 Pro Val Cys Ala Asn Tyr Ser Ile Asp Thr Leu Gln Pro Val Gly  
 155 160 165  
 Asp Asn Ile Ser Gly Met Ala Arg Cys Pro Tyr Asp Pro Lys His  
 170 175 180  
 Ala Asn Val Ala Leu Phe Ser Asp Gly Met Leu Phe Thr Ala Thr  
 185 190 195  
 Val Thr Asp Phe Leu Ala Ile Asp Ala Val Ile Tyr Arg Ser Leu  
 200 205 210  
 Gly Asp Arg Pro Thr Leu Arg Thr Val Lys His Asp Ser Lys Trp  
 215 220 225  
 Phe Lys Glu Pro Tyr Phe Val His Ala Val Glu Trp Gly Ser His  
 230 235 240  
 Val Tyr Phe Phe Phe Arg Glu Ile Ala Met Glu Phe Asn Tyr Leu  
 245 250 255  
 Glu Lys Val Val Val Ser Arg Val Ala Arg Val Cys Lys Asn Asp  
 260 265 270  
 Val Gly Gly Ser Pro Arg Val Leu Glu Lys Gln Trp Thr Ser Phe  
 275 280 285  
 Leu Lys Ala Arg Leu Asn Cys Ser Val Pro Gly Asp Ser His Phe  
 290 295 300  
 Tyr Phe Asn Val Leu Gln Ala Val Thr Gly Val Val Ser Leu Gly

305										310					315				
Gly	Arg	Pro	Val	Val	Leu	Ala	Val	Phe	Ser	Thr	Pro	Ser	Asn	Ser					
				320					325					330					
Ile	Pro	Gly	Ser	Ala	Val	Cys	Ala	Phe	Asp	Leu	Thr	Gln	Val	Ala					
				335					340					345					
Ala	Val	Phe	Glu	Gly	Arg	Phe	Arg	Glu	Gln	Lys	Ser	Pro	Glu	Ser					
				350					355					360					
Ile	Trp	Thr	Pro	Val	Pro	Glu	Asp	Gln	Val	Pro	Arg	Pro	Arg	Pro					
				365					370					375					
Gly	Cys	Cys	Ala	Ala	Pro	Gly	Met	Gln	Tyr	Asn	Ala	Ser	Ser	Ala					
				380					385					390					
Leu	Pro	Asp	Asp	Ile	Leu	Asn	Phe	Val	Lys	Thr	His	Pro	Leu	Met					
				395					400					405					
Asp	Glu	Ala	Val	Pro	Ser	Leu	Gly	His	Ala	Pro	Trp	Ile	Leu	Arg					
				410					415					420					
Thr	Leu	Met	Arg	His	Gln	Leu	Thr	Arg	Val	Ala	Val	Asp	Val	Gly					
				425					430					435					
Ala	Gly	Pro	Trp	Gly	Asn	Gln	Thr	Val	Val	Phe	Leu	Gly	Ser	Glu					
				440					445					450					
Ala	Gly	Thr	Val	Leu	Lys	Phe	Leu	Val	Arg	Pro	Asn	Ala	Ser	Thr					
				455					460					465					
Ser	Gly	Thr	Ser	Gly	Leu	Ser	Val	Phe	Leu	Glu	Glu	Phe	Glu	Thr					
				470					475					480					
Tyr	Arg	Pro	Asp	Arg	Cys	Gly	Arg	Pro	Gly	Gly	Gly	Glu	Thr	Gly					
				485					490					495					
Gln	Arg	Leu	Leu	Ser	Leu	Glu	Leu	Asp	Ala	Ala	Ser	Gly	Gly	Leu					
				500					505					510					
Leu	Ala	Ala	Phe	Pro	Arg	Cys	Val	Val	Arg	Val	Pro	Val	Ala	Arg					
				515					520					525					
Cys	Gln	Gln	Tyr	Ser	Gly	Cys	Met	Lys	Asn	Cys	Ile	Gly	Ser	Gln					
				530					535					540					
Asp	Pro	Tyr	Cys	Gly	Trp	Ala	Pro	Asp	Gly	Ser	Cys	Ile	Phe	Leu					
				545					550					555					
Ser	Pro	Gly	Thr	Arg	Ala	Ala	Phe	Glu	Gln	Asp	Val	Ser	Gly	Ala					
				560					565					570					
Ser	Thr	Ser	Gly	Leu	Gly	Asp	Cys	Thr	Gly	Leu	Leu	Arg	Ala	Ser					
				575					580					585					
Leu	Ser	Glu	Asp	Arg	Ala	Gly	Leu	Val	Ser	Val	Asn	Leu	Leu	Val					
				590					595					600					

Thr Ser Ser Val Ala Ala Phe Val Val Gly Ala Val Val Ser Gly  
 605 610 615  
 Phe Ser Val Gly Trp Phe Val Gly Leu Arg Glu Arg Arg Glu Leu  
 620 625 630  
 Ala Arg Arg Lys Asp Lys Glu Ala Ile Leu Ala His Gly Ala Gly  
 635 640 645  
 Glu Ala Val Leu Ser Val Ser Arg Leu Gly Glu Arg Arg Ala Gln  
 650 655 660  
 Gly Pro Gly Gly Arg Gly Gly Gly Gly Gly Gly Gly Ala Gly Val  
 665 670 675  
 Pro Pro Glu Ala Leu Leu Ala Pro Leu Met Gln Asn Gly Trp Ala  
 680 685 690  
 Lys Ala Thr Leu Leu Gln Gly Gly Pro His Asp Leu Asp Ser Gly  
 695 700 705  
 Leu Leu Pro Thr Pro Glu Gln Thr Pro Leu Pro Gln Lys Arg Leu  
 710 715 720  
 Pro Thr Pro His Pro His Pro His Ala Leu Gly Pro Arg Ala Trp  
 725 730 735  
 Asp His Gly His Pro Leu Leu Pro Ala Ser Ala Ser Ser Ser Leu  
 740 745 750  
 Leu Leu Leu Ala Pro Ala Arg Ala Pro Glu Gln Pro Pro Ala Pro  
 755 760 765  
 Gly Glu Pro Thr Pro Asp Gly Arg Leu Tyr Ala Ala Arg Pro Gly  
 770 775 780  
 Arg Ala Ser His Gly Asp Phe Pro Leu Thr Pro His Ala Ser Pro  
 785 790 795  
 Asp Arg Arg Arg Val Val Ser Ala Pro Thr Gly Pro Leu Asp Pro  
 800 805 810  
 Ala Ser Ala Ala Asp Gly Leu Pro Arg Pro Trp Ser Pro Pro Pro  
 815 820 825  
 Thr Gly Ser Leu Arg Arg Pro Leu Gly Pro His Ala Pro Pro Ala  
 830 835 840  
 Ala Thr Leu Arg Arg Thr His Thr Phe Asn Ser Gly Glu Ala Arg  
 845 850 855  
 Pro Gly Asp Arg His Arg Gly Cys His Ala Arg Pro Gly Thr Asp  
 860 865 870  
 Leu Ala His Leu Leu Pro Tyr Gly Gly Ala Asp Arg Thr Ala Pro  
 875 880 885  
 Pro Val Pro

<210> 36  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 36  
gaggacctac cggccggaca g 21

<210> 37  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 37  
atacaccgccg agtactgctg gcag 24

<210> 38  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 38  
agacaggcca gcggctgctg agcttggagc tggacgcagc tt 42

<210> 39  
<211> 2014  
<212> DNA  
<213> Homo Sapien

<400> 39  
agcaactcaa gttcatcatt gtcctgagag agaggagcag cgcggttctc 50  
ggccggggaca gcagaacgcc aggggaccct cacctgggag cgcgggggca 100  
cgggctttga ttgtcctggg gtcgaggaga cccgcgcgcc tgccctgcac 150  
gccggggcggc aacctttgca gtcgctgttg ctgctgcgat cggccggcgg 200  
gtccctgccg aaggctcggc tgcttctgtc cacctcttac acttcttcat 250  
ttatcgggtg atcatttcga gagtccgtct tgtaaagtgt tggcactttg 300  
ctactttatt gcttctttct ggcgacagtt ccagcactcg ccgagaccgg 350  
cggagaaaagg cagctgagcc cggagaagag cgaaatatgg ggaccggggc 400  
taaaagcaga cgtcgtcctt cccgcccgtc atttctatat tcaggcagtg 450

gatacatcag ggaataaatt cacatcttct ccaggcgaaa aggtcttcca 500  
ggtgaaagtc tcagcaccag aggagcaatt cactagagtt ggagtccagg 550  
tttttagaccg aaaagatggg tccttcatag taagatacag aatgtatgca 600  
agctacaaaa atctgaaggt ggaaattaaa ttccaagggc aacatgtggc 650  
caaatcccca tatattttta aagggccggg ttaccatgag aactgtgact 700  
gtcctctgca agatagtgc gcttggtac gggagatgaa ctgccctgaa 750  
accattgctc agattcagag agatctggca catttccctg ctgtggatcc 800  
agaaaagatt gcagtagaaa tcccaaaaag atttgagacag aggcagagcc 850  
tatgtcacta caccttaaag gataacaagg tttatatcaa gactcatggt 900  
gaacatgtag gttttagaat tttcatggat gccatactac tttctttgac 950  
tagaaaggtg aagatgccag atgtggagct ctttgттаат ttgggagact 1000  
ggcctttgga aaaaaagaaa tccaattcaa acatccatcc gatcttttcc 1050  
tggtgtggct ccacagattc caaggatctc gtgatgccta cgtacgattt 1100  
gactgattct gttctggaaa ccatgggccg ggtaagtctg gatatgatgt 1150  
ccgtgcaagc taacacgggt cctccctggg aaagcaaaaa ttccactgcc 1200  
gtctggagag ggcgagacag ccgcaaagag agactcgagc tggttaaaact 1250  
cagtagaaaa caccagaac tcatagacgc tgctttcacc aactttttct 1300  
tctttaaaca cgatgaaaac ctgtatggtc ccatttgtaa acatatttca 1350  
ttttttgatt tcttcaagca taagtatcaa ataaatatcg atggcactgt 1400  
agcagcttat cgctgccat atttgctagt tggtgacagt gttgtgctga 1450  
agcaggattc catctactat gaacattttt acaatgagct gcagccctgg 1500  
aaacactaca ttccagttaa gagcaacctg agcgatctgc tagaaaaact 1550  
taaattggcg aaagatcacg atgaagaggc caaaaagata gcaaaagcag 1600  
gacaagaatt tgcaagaaat aatctcatgg gcgatgacat attctgttat 1650  
tatttcaaac ttttccagga atatgccaat ttacaagtga gtgagcccca 1700  
aatccgagag ggcagaaaaa gggtagaacc acagactgag gacgacctct 1750  
tccctgtac ttgcatagg aaaaagacca aagatgaact ctgatatgca 1800  
aaataacttc tattagaata atggtgctct gaagactctt cttactaaa 1850  
aagaagaatt tttttaagta ttaattccat ggacaatata aaatctgtgt 1900



gattgtttgc agtatgaaga cacatttcta cttatgcagt atttctcatga 1950  
 ctgtacttta aagtacattt ttagaatttt ataataaaaac cacctttatt 2000  
 ttaaaggaaa aaaa 2014

<210> 40  
 <211> 502  
 <212> PRT  
 <213> Homo Sapien

<400> 40  
 Met Phe Gly Thr Leu Leu Leu Tyr Cys Phe Phe Leu Ala Thr Val 15  
 1 5 10  
 Pro Ala Leu Ala Glu Thr Gly Gly Glu Arg Gln Leu Ser Pro Glu 30  
 20 25  
 Lys Ser Glu Ile Trp Gly Pro Gly Leu Lys Ala Asp Val Val Leu 45  
 35 40  
 Pro Ala Arg Tyr Phe Tyr Ile Gln Ala Val Asp Thr Ser Gly Asn 60  
 50 55  
 Lys Phe Thr Ser Ser Pro Gly Glu Lys Val Phe Gln Val Lys Val 75  
 65 70  
 Ser Ala Pro Glu Glu Gln Phe Thr Arg Val Gly Val Gln Val Leu 90  
 80 85  
 Asp Arg Lys Asp Gly Ser Phe Ile Val Arg Tyr Arg Met Tyr Ala 105  
 95 100  
 Ser Tyr Lys Asn Leu Lys Val Glu Ile Lys Phe Gln Gly Gln His 120  
 110 115  
 Val Ala Lys Ser Pro Tyr Ile Leu Lys Gly Pro Val Tyr His Glu 135  
 125 130  
 Asn Cys Asp Cys Pro Leu Gln Asp Ser Ala Ala Trp Leu Arg Glu 150  
 140 145  
 Met Asn Cys Pro Glu Thr Ile Ala Gln Ile Gln Arg Asp Leu Ala 165  
 155 160  
 His Phe Pro Ala Val Asp Pro Glu Lys Ile Ala Val Glu Ile Pro 180  
 170 175  
 Lys Arg Phe Gly Gln Arg Gln Ser Leu Cys His Tyr Thr Leu Lys 195  
 185 190  
 Asp Asn Lys Val Tyr Ile Lys Thr His Gly Glu His Val Gly Phe 210  
 200 205  
 Arg Ile Phe Met Asp Ala Ile Leu Leu Ser Leu Thr Arg Lys Val 225  
 215 220  
 Lys Met Pro Asp Val Glu Leu Phe Val Asn Leu Gly Asp Trp Pro

230	235	240
Leu Glu Lys Lys Lys Ser Asn Ser Asn	Ile His Pro Ile Phe Ser	255
245	250	
Trp Cys Gly Ser Thr Asp Ser Lys Asp	Ile Val Met Pro Thr Tyr	270
260	265	
Asp Leu Thr Asp Ser Val Leu Glu Thr	Met Gly Arg Val Ser Leu	285
275	280	
Asp Met Met Ser Val Gln Ala Asn Thr	Gly Pro Pro Trp Glu Ser	300
290	295	
Lys Asn Ser Thr Ala Val Trp Arg Gly	Arg Asp Ser Arg Lys Glu	315
305	310	
Arg Leu Glu Leu Val Lys Leu Ser Arg	Lys His Pro Glu Leu Ile	330
320	325	
Asp Ala Ala Phe Thr Asn Phe Phe Phe	Phe Lys His Asp Glu Asn	345
335	340	
Leu Tyr Gly Pro Ile Val Lys His Ile	Ser Phe Phe Asp Phe Phe	360
350	355	
Lys His Lys Tyr Gln Ile Asn Ile Asp	Gly Thr Val Ala Ala Tyr	375
365	370	
Arg Leu Pro Tyr Leu Leu Val Gly Asp	Ser Val Val Leu Lys Gln	390
380	385	
Asp Ser Ile Tyr Tyr Glu His Phe Tyr	Asn Glu Leu Gln Pro Trp	405
395	400	
Lys His Tyr Ile Pro Val Lys Ser Asn	Leu Ser Asp Leu Leu Glu	420
410	415	
Lys Leu Lys Trp Ala Lys Asp His Asp	Glu Glu Ala Lys Lys Ile	435
425	430	
Ala Lys Ala Gly Gln Glu Phe Ala Arg	Asn Asn Leu Met Gly Asp	450
440	445	
Asp Ile Phe Cys Tyr Tyr Phe Lys Leu	Phe Gln Glu Tyr Ala Asn	465
455	460	
Leu Gln Val Ser Glu Pro Gln Ile Arg	Glu Gly Met Lys Arg Val	480
470	475	
Glu Pro Gln Thr Glu Asp Asp Leu Phe	Pro Cys Thr Cys His Arg	495
485	490	
Lys Lys Thr Lys Asp Glu Leu		
500		

<210> 41  
<211> 26

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 41  
gaaggtggaa attaaattcc aagggc 26

<210> 42  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 42  
cgataagctg ctacagtgcc atcg 24

<210> 43  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 43  
gtgactgtcc tctgcaagat agtgcagcct ggctacggga 40

<210> 44  
<211> 2395  
<212> DNA  
<213> Homo Sapien

<400> 44  
cctggagccg gaagcgcggc tgcagcaggc cgaggctcca ggtggggctcg 50  
gttccgcata cagcctagcg tgtccacgat gcggctgggc tccgggactt 100  
tcgctacctg ttgcgtagcg atcgaggtgc tagggatcgc ggtcttcctt 150  
cggggattct tcccggctcc cgttcgttcc tctgccagag cggaacacgg 200  
agcggagccc ccagcgcgcc aaccctcggc tggagccagt tctaactgga 250  
ccacgctgcc accacctctc ttcagtaaag ttgttattgt tctgatagat 300  
gccttgagag atgattttgt gtttggttca aagggtgtga aatttatgcc 350  
ctacacaact taccttgtgg aaaaaggagc atctcacagt tttgtggctg 400  
aagcaaagcc acctacagtt actatgcctc gaatcaaggc attgatgacg 450  
gggagccttc ctggctttgt cgacgtcacc aggaacctca attctcctgc 500  
actgctggaa gacagtgtga taagacaagc aaaagcagct ggaaaaagaa 550

tagtctttta tggagatgaa acctgggtta aattattccc aaagcatttt 600  
 gtggaatatg atggaacaac ctcatTTTTt gtgtcagatt acacagaggt 650  
 ggataataat gtcacgagggc atttggataa agtattaaaa agaggagatt 700  
 gggacatatt aatcctccac tacctggggc tggaccacat tggccacatt 750  
 tcagggccca acagccccct gattgggcag aagctgagcg agatggacag 800  
 cgtgctgatg aagatccaca cctcactgca gtcgaaggag agagagacgc 850  
 ctttacccaa tttgctgggt ctttgtgggt accatggcat gtctgaaaca 900  
 ggaagtcaag gggcctcctc caccgaggag gtgaatacac ctctgatttt 950  
 aatcagttct gcgtttgaaa ggaaaccggt tgatatccga catccaaagc 1000  
 acgtccaata gacggatgtg gctgcgacac tggcgatagc acttggctta 1050  
 ccgattccaa aagacagtgt agggagcctc ctattcccag ttgtggaagg 1100  
 aagaccaatg agagagcagt tgagattttt acatttgaat acagtgcagc 1150  
 ttagtaaact gttgcaagag aatgtgccgt catatgaaaa agatcctggg 1200  
 tttgagcagt ttaaaatgtc agaaagattg catgggaact ggatcagact 1250  
 gtacttggag gaaaagcatt cagaagtcct attcaacctg ggctccaagg 1300  
 ttctcaggca gtacctggat gctctgaaga cgctgagctt gtccctgagt 1350  
 gcacaagtgg ccagttctc accctgctcc tgctcagcgt cccacaggca 1400  
 ctgcacagaa aggctgagct ggaagtccca ctgtcatctc ctgggttttc 1450  
 tctgctcttt tatttgggtga tcctgggtct ttcggccgtt cactcattg 1500  
 tgtgcacctc agctgaaagt tcgtgctact tctgtggcct ctctgggctg 1550  
 gcggcaggct gcctttcgtt taccagactc tggttgaaca cctgggtgtg 1600  
 gccaaagtgt ggcagtgtcc tggacagggg gcctcaggga aggacgtgga 1650  
 gcagccttat cccaggcctc tgggtgtccc gacacagggt ttcacatctg 1700  
 tgctgtcagg tcagatgcct cagttcttgg aaagctaggt tcctgcgact 1750  
 gttaccaagg tgattgtaaa gagctggcgg tcacagagga acaagcccc 1800  
 cagctgaggg ggtgtgtgaa tcggacagcc tcccagcaga ggtgtgggag 1850  
 ctgcagctga ggaagaaga gacaatcggc ctggacactc aggaggggtca 1900  
 aaaggagact tggctgcacc actcatcctg ccacccccag aatgcacct 1950  
 gcctcatcag gtccagattt ctttccaagg cggacgtttt ctgttggaa 2000

tcttagtcct tggcctcgga caccttcatt cgtagctgg ggagtgggtgg 2050  
 tgaggcagtg aagaagaggc ggatgggtcac actcagatcc acagagccca 2100  
 ggatcaaggg acccactgca gtggcagcag gactgttggg cccccacccc 2150  
 aaccctgcac agccctcatc ccctcttggc ttgagccgtc agaggccctg 2200  
 tgctgagtgt ctgaccgaga cactcacagc tttgtcatca gggcacaggc 2250  
 ttcctcggag ccaggatgat ctgtgccacg cttgcacctc gggcccatct 2300  
 gggctcatgc tctctctcct gctattgaat tagtacctag ctgcacacag 2350  
 tatgtagtta ccaaaagaat aaacggcaat aattgagaaa aaaaa 2395

<210> 45  
 <211> 310  
 <212> PRT  
 <213> Homo Sapien

<400> 45  
 Met Arg Leu Gly Ser Gly Thr Phe Ala Thr Cys Cys Val Ala Ile 15  
 1 5 10  
 Glu Val Leu Gly Ile Ala Val Phe Leu Arg Gly Phe Phe Pro Ala 30  
 20 25  
 Pro Val Arg Ser Ser Ala Arg Ala Glu His Gly Ala Glu Pro Pro 45  
 35 40  
 Ala Pro Glu Pro Ser Ala Gly Ala Ser Ser Asn Trp Thr Thr Leu 60  
 50 55  
 Pro Pro Pro Leu Phe Ser Lys Val Val Ile Val Leu Ile Asp Ala 75  
 65 70  
 Leu Arg Asp Asp Phe Val Phe Gly Ser Lys Gly Val Lys Phe Met 90  
 80 85  
 Pro Tyr Thr Thr Tyr Leu Val Glu Lys Gly Ala Ser His Ser Phe 105  
 95 100  
 Val Ala Glu Ala Lys Pro Pro Thr Val Thr Met Pro Arg Ile Lys 120  
 110 115  
 Ala Leu Met Thr Gly Ser Leu Pro Gly Phe Val Asp Val Ile Arg 135  
 125 130  
 Asn Leu Asn Ser Pro Ala Leu Leu Glu Asp Ser Val Ile Arg Gln 150  
 140 145  
 Ala Lys Ala Ala Gly Lys Arg Ile Val Phe Tyr Gly Asp Glu Thr 165  
 155 160  
 Trp Val Lys Leu Phe Pro Lys His Phe Val Glu Tyr Asp Gly Thr 180  
 170 175

Thr	Ser	Phe	Phe	Val	Ser	Asp	Tyr	Thr	Glu	Val	Asp	Asn	Asn	Val	185	190	195
Thr	Arg	His	Leu	Asp	Lys	Val	Leu	Lys	Arg	Gly	Asp	Trp	Asp	Ile	200	205	210
Leu	Ile	Leu	His	Tyr	Leu	Gly	Leu	Asp	His	Ile	Gly	His	Ile	Ser	215	220	225
Gly	Pro	Asn	Ser	Pro	Leu	Ile	Gly	Gln	Lys	Leu	Ser	Glu	Met	Asp	230	235	240
Ser	Val	Leu	Met	Lys	Ile	His	Thr	Ser	Leu	Gln	Ser	Lys	Glu	Arg	245	250	255
Glu	Thr	Pro	Leu	Pro	Asn	Leu	Leu	Val	Leu	Cys	Gly	Asp	His	Gly	260	265	270
Met	Ser	Glu	Thr	Gly	Ser	His	Gly	Ala	Ser	Ser	Thr	Glu	Glu	Val	275	280	285
Asn	Thr	Pro	Leu	Ile	Leu	Ile	Ser	Ser	Ala	Phe	Glu	Arg	Lys	Pro	290	295	300
Gly	Asp	Ile	Arg	His	Pro	Lys	His	Val	Gln						305	310	

<210> 46  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 46  
 cgggactttc gctacctgtt gc 22

<210> 47  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 47  
 catcatattc cacaaaatgc tttggg 26

<210> 48  
 <211> 38  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 48

ccttcgggga ttcttcccgg ctcccgttcg ttctcttg 38

<210> 49  
<211> 918  
<212> DNA  
<213> Homo Sapien

<400> 49  
agccaggcag cacatcacag cgggaggagc tgtcccaggt ggcccagctc 50  
agcaatggca atgggggtcc ccagagtcac tctgctctgc ctctttgggg 100  
ctgcgctctg cctgacaggg tcccaagccc tgcagtgcta cagctttgag 150  
cacacctact ttggccccct tgacctcagg gccatgaagc tgcccagcat 200  
ctcctgtcct catgagtgtc ttgaggctat cctgtctctg gacaccgggt 250  
atcgcgcgcc ggtgacctg gtgcggaagg gctgctggac cgggcctcct 300  
gcggggccaga cgcaatcgaa cccggacgcg ctgccgccag actactcggg 350  
ggtgcgcggc tgcacaactg acaaatgcaa cgcccacctc atgactcatg 400  
acgccctccc caacctgagc caagcacccg acccgccgac gctcagcggc 450  
gccgagtgtc acgcctgtat cgggggtccac caggatgact gcgctatcgg 500  
caggtcccga cgagtccagt gtcaccagga ccagaccgcc tgcttccagg 550  
gcagtggcag aatgacagtt ggcaatttct cagtccctgt gtacatcaga 600  
acctgccacc ggccctcctg caccaccgag ggcaccacca gccctggac 650  
agccatcgac ctccagggtc cctgctgtga ggggtacctc tgcaacagga 700  
aatccatgac ccagcccttc accagtgtc cagccaccac cctccccga 750  
gcactacagg tcttggccct gctcctccca gtcctcctgc tgggtggggct 800  
ctcagcatag accgcccctc caggatgtcg gggacagggc tcacacacct 850  
cattcttctg gcttcagccc ctatcacata gtcactgga aaatgatgtt 900  
aaagtaagaa ttgcaaaa 918

<210> 50  
<211> 251  
<212> PRT  
<213> Homo Sapien

<400> 50  
Met Ala Met Gly Val Pro Arg Val Ile Leu Leu Cys Leu Phe Gly  
1 5 10  
Ala Ala Leu Cys Leu Thr Gly Ser Gln Ala Leu Gln Cys Tyr Ser  
20 25 30

Phe Glu His Thr Tyr Phe Gly Pro Phe Asp Leu Arg Ala Met Lys  
35 40 45  
Leu Pro Ser Ile Ser Cys Pro His Glu Cys Phe Glu Ala Ile Leu  
50 55 60  
Ser Leu Asp Thr Gly Tyr Arg Ala Pro Val Thr Leu Val Arg Lys  
65 70 75  
Gly Cys Trp Thr Gly Pro Pro Ala Gly Gln Thr Gln Ser Asn Pro  
80 85 90  
Asp Ala Leu Pro Pro Asp Tyr Ser Val Val Arg Gly Cys Thr Thr  
95 100 105  
Asp Lys Cys Asn Ala His Leu Met Thr His Asp Ala Leu Pro Asn  
110 115 120  
Leu Ser Gln Ala Pro Asp Pro Pro Thr Leu Ser Gly Ala Glu Cys  
125 130 135  
Tyr Ala Cys Ile Gly Val His Gln Asp Asp Cys Ala Ile Gly Arg  
140 145 150  
Ser Arg Arg Val Gln Cys His Gln Asp Gln Thr Ala Cys Phe Gln  
155 160 165  
Gly Ser Gly Arg Met Thr Val Gly Asn Phe Ser Val Pro Val Tyr  
170 175 180  
Ile Arg Thr Cys His Arg Pro Ser Cys Thr Thr Glu Gly Thr Thr  
185 190 195  
Ser Pro Trp Thr Ala Ile Asp Leu Gln Gly Ser Cys Cys Glu Gly  
200 205 210  
Tyr Leu Cys Asn Arg Lys Ser Met Thr Gln Pro Phe Thr Ser Ala  
215 220 225  
Ser Ala Thr Thr Pro Pro Arg Ala Leu Gln Val Leu Ala Leu Leu  
230 235 240  
Leu Pro Val Leu Leu Leu Val Gly Leu Ser Ala  
245 250

<210> 51  
<211> 3288  
<212> DNA  
<213> Homo Sapien

<400> 51  
cccacgcgtc cgggacagat gaacttaaaa gagaagcttt agctgccaaa 50  
gattgggaaa gggaaaggac aaaaaagacc cctgggctac acggcgtagg 100  
tgcagggttt cctactgctg ttcttttatg ctgggagctg tggctgtaac 150  
caactaggaa ataacgtatg cagcagctat ggctgtcaga gagttgtgct 200



tcccaagaca aaggcaagtc ctgtttcttt ttcttttttg gggagtgtcc 250  
 ttggcagggt ctgggttttg acgttattcg gtgactgagg aaacagagaa 300  
 aggatccttt gtggtcaatc tggcaaagga tctgggacta gcagaggggg 350  
 agctggctgc aaggggaacc aggggtgggtt ccgatgataa caaacaatac 400  
 ctgctcctgg attcacatac cgggaatttg ctcaaatg agaaactgga 450  
 ccgagagaag ctgtgtggcc ctaaagagcc ctgtatgctg tatttccaaa 500  
 ttttaatgga tgatcccttt cagatttacc gggctgagct gagagtcagg 550  
 gatataaatg atcacgcgcc agtatttcag gacaaagaaa cagtcttaaa 600  
 aatatcagaa aatacagctg aaggacagc atttagacta gaaagagcac 650  
 aggatccaga tggaggactt aacggtatcc aaaactacac gatcagcccc 700  
 aactcttttt tccatattaa cattagtggc ggtgatgaag gcatgatata 750  
 tccagagcta gtgttgga aagcactgga tcgggaggag caggagagc 800  
 tcagcttaac cctcacagcg ctggatgggtg ggtctccatc caggctctggg 850  
 acctctactg tacgcatcgt tgtcttgga gtcaatgaca atgccccaca 900  
 gtttgeccag gctctgtatg agaccagggc tccagaaaac agccccattg 950  
 ggttccttat tgttaaggta tgggcagaag atgtagactc tggagtcaac 1000  
 gcggaagtat cctattcatt ttttgatgcc tcagaaaata ttcgaacgac 1050  
 ctttcaaate aatccttttt ctggggaaat ctttctcaga gaattgcttg 1100  
 attatgagtt agtaaattct tacaaaataa atatacaggc aatggacggg 1150  
 ggaggccttt ctgcaagatg tagggtttta gtggaagtat tggacaccaa 1200  
 tgacaatccc cctgaactga tcgtatcatc attttccaac tctgttgetg 1250  
 agaattctcc tgagacgccg ctggctgttt ttaagattaa tgacagagac 1300  
 tctggagaaa atggaaagat ggtttgetac attcaagaga atctgccatt 1350  
 cctactaaaa ctttctgtgg agaattttta catcctaatt acagaaggcg 1400  
 cgctggacag agagatcaga gccgagtaca acatcactat caccgtcact 1450  
 gacttgggga caccagggc gaaaaccgag cacaacataa cggctcctgg 1500  
 ctccgacgtc aatgacaacg ccccgccctt caccacaaacc tctacaccc 1550  
 tgttcgtccg cgagaacaac agccccgcc tgcacatcgg cagcgtcagc 1600  
 gccacagaca gagactcggg caccaacgcc caggtcacct actcgtgct 1650

gccgccccaa gacccgcacc tgcccctcgc ctccctgggc tccatcaacg 1700  
 cggacaacgg ccacctgttc gccctcaggt cgtgggacta cgaggccctg 1750  
 caggctttcg agttccgcgt gggcgccaca gaccgcggct ccccgcgct 1800  
 gagcagagag gcgctggtgc gcgtgctggt gctggacgcc aacgacaact 1850  
 cgcccttcgt gctgtaccgg ctgcagaacg gctccgcgcc ctgcaccgag 1900  
 ctggtgcccc gggcgggcga gccgggctac ctggtgacca aggtggtggc 1950  
 ggtggacggc gactcggggc agaacgcctg gctgtcgtac cagctgctca 2000  
 aggccacgga gcccgggctg ttcggtgtgt gggcgacaaa tggggaggtg 2050  
 cgcaccgcca ggctgctgag cgagcgcgac gcagccaagc acaggctcgt 2100  
 ggtgcttgct aaggacaatg gcgagcctcc tcgctcggcc accgccacgc 2150  
 tgcacttgct cctgggtggac ggcttctccc agccctacct gcctctccc 2200  
 gaggcgggcc cggcccaggc ccaggccgag gccgacttgc tcaccgtcta 2250  
 cctggtggtg gcgttggcct cgggtgtctc gctcttctc ctctcgggtg 2300  
 tcctgttcgt ggcggtgcgg ctgtgcagga ggagcagggc ggcctcgggtg 2350  
 ggtcgctgct cgggtgcccga gggtcctttt ccagggcac tcggtggacgt 2400  
 gagggcgct gagaccctgt ccagagcta ccagtatgag gtgtgtctga 2450  
 cgggaggccc cgggaccagt gagttcaagt tcttgaaacc agttatttcg 2500  
 gatattcagg cacaggggcc tgggaggaag ggtgaagaaa attccacctt 2550  
 ccgaaatagc tttggattta atattcagta aagtctgttt ttagtttcat 2600  
 atacttttgg tgtgttacat agccatgttt ctattagttt actttttaa 2650  
 ctcaaattta agttattatg caacttcaag cattattttc aagtagtata 2700  
 cccctgtggt ttacaatgt ttcacattt ttttgatta ataacaactg 2750  
 ggtttaattt aatgagtatt tttttctaaa tgatagtgtt aaggttttta 2800  
 ttctttccaa ctgcccagg aattaattac tattatatct cattacagaa 2850  
 atctgaggtt ttgattcatt tcagagcttg catctcatga ttctaatac 2900  
 ttctgtctat agtgacttg ctctatttaa gaaggcatat ctacatttcc 2950  
 aaactcattc taacattcta tatattcgtg ttgaaaacc atgtcattta 3000  
 tttctacatc atgtatttaa aaagaaatat ttctctacta ctatgctcat 3050  
 gacaaaatga aacaaagcat attgtgagca atactgaaca tcaataatac 3100

ccttagttta tataacttatt attttatctt taagcatgct acttttactt 3150  
 ggccaatatt ttcttatggt aacttttgct gatgtataaa acagactatg 3200  
 ccttataatt gaaataaaat tataatctgc ctgaaaatga ataaaaataa 3250  
 aacattttga aatgtgaaaa aaaaaaaaaa aaaaaaaaaa 3288

<210> 52  
 <211> 800  
 <212> PRT  
 <213> Homo Sapien

<400> 52  
 Met Ala Val Arg Glu Leu Cys Phe Pro Arg Gln Arg Gln Val Leu  
 1 5 10 15  
 Phe Leu Phe Leu Phe Trp Gly Val Ser Leu Ala Gly Ser Gly Phe  
 20 25 30  
 Gly Arg Tyr Ser Val Thr Glu Glu Thr Glu Lys Gly Ser Phe Val  
 35 40 45  
 Val Asn Leu Ala Lys Asp Leu Gly Leu Ala Glu Gly Glu Leu Ala  
 50 55 60  
 Ala Arg Gly Thr Arg Val Val Ser Asp Asp Asn Lys Gln Tyr Leu  
 65 70 75  
 Leu Leu Asp Ser His Thr Gly Asn Leu Leu Thr Asn Glu Lys Leu  
 80 85 90  
 Asp Arg Glu Lys Leu Cys Gly Pro Lys Glu Pro Cys Met Leu Tyr  
 95 100 105  
 Phe Gln Ile Leu Met Asp Asp Pro Phe Gln Ile Tyr Arg Ala Glu  
 110 115 120  
 Leu Arg Val Arg Asp Ile Asn Asp His Ala Pro Val Phe Gln Asp  
 125 130 135  
 Lys Glu Thr Val Leu Lys Ile Ser Glu Asn Thr Ala Glu Gly Thr  
 140 145 150  
 Ala Phe Arg Leu Glu Arg Ala Gln Asp Pro Asp Gly Gly Leu Asn  
 155 160 165  
 Gly Ile Gln Asn Tyr Thr Ile Ser Pro Asn Ser Phe Phe His Ile  
 170 175 180  
 Asn Ile Ser Gly Gly Asp Glu Gly Met Ile Tyr Pro Glu Leu Val  
 185 190 195  
 Leu Asp Lys Ala Leu Asp Arg Glu Glu Gln Gly Glu Leu Ser Leu  
 200 205 210  
 Thr Leu Thr Ala Leu Asp Gly Gly Ser Pro Ser Arg Ser Gly Thr  
 215 220 225

Ser Thr Val Arg Ile Val Val Leu Asp Val Asn Asp Asn Ala Pro  
 230 235 240  
 Gln Phe Ala Gln Ala Leu Tyr Glu Thr Gln Ala Pro Glu Asn Ser  
 245 250 255  
 Pro Ile Gly Phe Leu Ile Val Lys Val Trp Ala Glu Asp Val Asp  
 260 265 270  
 Ser Gly Val Asn Ala Glu Val Ser Tyr Ser Phe Phe Asp Ala Ser  
 275 280 285  
 Glu Asn Ile Arg Thr Thr Phe Gln Ile Asn Pro Phe Ser Gly Glu  
 290 295 300  
 Ile Phe Leu Arg Glu Leu Leu Asp Tyr Glu Leu Val Asn Ser Tyr  
 305 310 315  
 Lys Ile Asn Ile Gln Ala Met Asp Gly Gly Gly Leu Ser Ala Arg  
 320 325 330  
 Cys Arg Val Leu Val Glu Val Leu Asp Thr Asn Asp Asn Pro Pro  
 335 340 345  
 Glu Leu Ile Val Ser Ser Phe Ser Asn Ser Val Ala Glu Asn Ser  
 350 355 360  
 Pro Glu Thr Pro Leu Ala Val Phe Lys Ile Asn Asp Arg Asp Ser  
 365 370 375  
 Gly Glu Asn Gly Lys Met Val Cys Tyr Ile Gln Glu Asn Leu Pro  
 380 385 390  
 Phe Leu Leu Lys Pro Ser Val Glu Asn Phe Tyr Ile Leu Ile Thr  
 395 400 405  
 Glu Gly Ala Leu Asp Arg Glu Ile Arg Ala Glu Tyr Asn Ile Thr  
 410 415 420  
 Ile Thr Val Thr Asp Leu Gly Thr Pro Arg Leu Lys Thr Glu His  
 425 430 435  
 Asn Ile Thr Val Leu Val Ser Asp Val Asn Asp Asn Ala Pro Ala  
 440 445 450  
 Phe Thr Gln Thr Ser Tyr Thr Leu Phe Val Arg Glu Asn Asn Ser  
 455 460 465  
 Pro Ala Leu His Ile Gly Ser Val Ser Ala Thr Asp Arg Asp Ser  
 470 475 480  
 Gly Thr Asn Ala Gln Val Thr Tyr Ser Leu Leu Pro Pro Gln Asp  
 485 490 495  
 Pro His Leu Pro Leu Ala Ser Leu Val Ser Ile Asn Ala Asp Asn  
 500 505 510  
 Gly His Leu Phe Ala Leu Arg Ser Leu Asp Tyr Glu Ala Leu Gln

515	520	525
Ala Phe Glu Phe Arg Val Gly Ala Thr	Asp Arg Gly Ser Pro	Ala 540
530	535	
Leu Ser Arg Glu Ala Leu Val Arg Val	Leu Val Leu Asp Ala	Asn 555
545	550	
Asp Asn Ser Pro Phe Val Leu Tyr Pro	Leu Gln Asn Gly Ser	Ala 570
560	565	
Pro Cys Thr Glu Leu Val Pro Arg Ala	Ala Glu Pro Gly Tyr	Leu 585
575	580	
Val Thr Lys Val Val Ala Val Asp Gly	Asp Ser Gly Gln Asn	Ala 600
590	595	
Trp Leu Ser Tyr Gln Leu Leu Lys Ala	Thr Glu Pro Gly Leu	Phe 615
605	610	
Gly Val Trp Ala His Asn Gly Glu Val	Arg Thr Ala Arg Leu	Leu 630
620	625	
Ser Glu Arg Asp Ala Ala Lys His Arg	Leu Val Val Leu Val	Lys 645
635	640	
Asp Asn Gly Glu Pro Pro Arg Ser Ala	Thr Ala Thr Leu His	Leu 660
650	655	
Leu Leu Val Asp Gly Phe Ser Gln Pro	Tyr Leu Pro Leu Pro	Glu 675
665	670	
Ala Ala Pro Ala Gln Ala Gln Ala Glu	Ala Asp Leu Leu Thr	Val 690
680	685	
Tyr Leu Val Val Ala Leu Ala Ser Val	Ser Ser Leu Phe Leu	Leu 705
695	700	
Ser Val Leu Leu Phe Val Ala Val Arg	Leu Cys Arg Arg Ser	Arg 720
710	715	
Ala Ala Ser Val Gly Arg Cys Ser Val	Pro Glu Gly Pro Phe	Pro 735
725	730	
Gly His Leu Val Asp Val Arg Gly Ala	Glu Thr Leu Ser Gln	Ser 750
740	745	
Tyr Gln Tyr Glu Val Cys Leu Thr Gly	Gly Pro Gly Thr Ser	Glu 765
755	760	
Phe Lys Phe Leu Lys Pro Val Ile Ser	Asp Ile Gln Ala Gln	Gly 780
770	775	
Pro Gly Arg Lys Gly Glu Glu Asn Ser	Thr Phe Arg Asn Ser	Phe 795
785	790	
Gly Phe Asn Ile Gln		
800		

<210> 53  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 53  
ctggggagtg tccttggcag gttc 24

<210> 54  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 54  
cagcatacag ggctcttttag ggcacac 27

<210> 55  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 55  
cggtgactga ggaaacagag aaaggatcct ttgtgggtcaa tctggc 46

<210> 56  
<211> 2242  
<212> DNA  
<213> Homo Sapien

<220>  
<221> unsure  
<222> 2181  
<223> unknown base

<400> 56  
gaatgaatac ctccgaagcc gctttgttct ccagatgtga atagctccac 50  
tataccagcc tcgtcttcct tccgggggac aacgtggggtc agggcacaga 100  
gagatattta atgtcaccct cttgggggctt tcatgggact ccctctgcca 150  
catttttttg aggttgggaa agttgctaga ggcttcagaa ctccagccta 200  
atggatccca aactcgggag aatggctgctg tccctgctgg ctgtgctgct 250  
gctgctgctg gagcgcgga tgttctctc accctccccg cccccggcgc 300  
tgttagagaa agtcttccag tacattgacc tccatcagga tgaatttgctg 350

cagacgctga aggagtgggt ggccatcgag agcgactctg tccagcctgt 400  
gcctcgcttc agacaagagc tcttcagaat gatggccgtg gctgcggaca 450  
cgctgcagcg cctggggggcc cgtgtggcct cgggtggacat gggtcctcag 500  
cagctgccccg atggtcagag tcttccaata cctccccgtca tcttggccga 550  
actggggagc gatcccacga aaggcaccgt gtgcttctac ggccacttgg 600  
acgtgcagcc tgetgaccgg ggcgatgggt ggctcacgga cccctatgtg 650  
ctgacggagg tagacgggaa actttatgga cgaggagcga ccgacaacaa 700  
aggccctgtc ttggcttga tcaatgctgt gagcgccctc agagccctgg 750  
agcaagatct tctgtgaat atcaaattca tcattgaggg gatggaagag 800  
gctggctctg ttgccctgga ggaacttgtg gaaaaagaaa aggaccgatt 850  
cttctctgggt gtggactaca ttgtaatttc agataacctg tggatcagcc 900  
aaaggaagcc agcaatcact tatggaaccc gggggaacag ctacttcatg 950  
gtggaggtga aatgcagaga ccaggatttt cactcaggaa cctttgggtg 1000  
catccttcat gaaccaatgg ctgatctgggt tgetcttctc ggtagcctgg 1050  
tagactcgtc tggatcatatc ctggccctg gaatctatga tgaagtgggt 1100  
cctcttacag aagaggaaat aaatacatc aaagccatcc atctagacct 1150  
agaagaatac cggaatagca gccgggttga gaaatttctg ttcgatacta 1200  
aggaggagat tctaatgcac ctctggagggt acccatctct ttctattcat 1250  
gggatcgagg gcgcgtttga tgagcctgga actaaaacag tcataacctg 1300  
ccgagttata ggaaaatttt caatccgtct agtccctcac atgaatgtgt 1350  
ctgcggtgga aaaacagggt acacgacatc ttgaagatgt gttctccaaa 1400  
agaaatagtt ccaacaagat ggttgtttcc atgactctag gactacaccc 1450  
gtggattgca aatattgatg acaccagta tctcgagca aaaagagcga 1500  
tcagaacagt gtttgaaca gaaccagata tgatccggga tggatccacc 1550  
attccaattg ccaaaatggt ccaggagatc gtccacaaga gcgtggtgct 1600  
aattccgctg ggagctggtg atgatggaga acattcgag aatgagaaaa 1650  
tcaacagggt gaactacata gagggaaacca aattatttgc tgcctttttc 1700  
ttagagatgg ccagctcca ttaatcacia gaaccttcta gtctgatctg 1750  
atccactgac agattcacct cccccacatc cctagacagg gatggaatgt 1800

aaatatccag agaatttggg tctagtatag tacattttcc cttccattta 1850  
 aaatgtcttg ggatatctgg atcagtaata aaatatttca aaggcacaga 1900  
 tgttggaat ggtttaaggt cccccactgc acaccttcct caagtcatag 1950  
 ctgcttgca caacttgatt tccccaaagtc ctgtgcaata gccccaggat 2000  
 tggattcctt ccaacctttt agcatatctc caaccttgca atttgattgg 2050  
 cataatcact ccggtttgct ttctagggtcc tcaagtgtc gtgacacata 2100  
 atcattccat ccaatgatcg cttttgcttt accactcttt ctttttatct 2150  
 tattaataaa aatgttggtc tccaccactg nctcccaaaa aaaaaaaaaa 2200  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 2242

<210> 57  
 <211> 507  
 <212> PRT  
 <213> Homo Sapien

<400> 57  
 Met Asp Pro Lys Leu Gly Arg Met Ala Ala Ser Leu Leu Ala Val  
 1 5 10 15  
 Leu Leu Leu Leu Leu Glu Arg Gly Met Phe Ser Ser Pro Ser Pro  
 20 25 30  
 Pro Pro Ala Leu Leu Glu Lys Val Phe Gln Tyr Ile Asp Leu His  
 35 40 45  
 Gln Asp Glu Phe Val Gln Thr Leu Lys Glu Trp Val Ala Ile Glu  
 50 55 60  
 Ser Asp Ser Val Gln Pro Val Pro Arg Phe Arg Gln Glu Leu Phe  
 65 70 75  
 Arg Met Met Ala Val Ala Ala Asp Thr Leu Gln Arg Leu Gly Ala  
 80 85 90  
 Arg Val Ala Ser Val Asp Met Gly Pro Gln Gln Leu Pro Asp Gly  
 95 100 105  
 Gln Ser Leu Pro Ile Pro Pro Val Ile Leu Ala Glu Leu Gly Ser  
 110 115 120  
 Asp Pro Thr Lys Gly Thr Val Cys Phe Tyr Gly His Leu Asp Val  
 125 130 135  
 Gln Pro Ala Asp Arg Gly Asp Gly Trp Leu Thr Asp Pro Tyr Val  
 140 145 150  
 Leu Thr Glu Val Asp Gly Lys Leu Tyr Gly Arg Gly Ala Thr Asp  
 155 160 165  
 Asn Lys Gly Pro Val Leu Ala Trp Ile Asn Ala Val Ser Ala Phe



	170	175	180
Arg Ala Leu Glu Gln Asp Leu Pro Val	Asn Ile Lys Phe Ile Ile		
185	190	195	
Glu Gly Met Glu Glu Ala Gly Ser Val	Ala Leu Glu Glu Leu Val		
200	205	210	
Glu Lys Glu Lys Asp Arg Phe Phe Ser	Gly Val Asp Tyr Ile Val		
215	220	225	
Ile Ser Asp Asn Leu Trp Ile Ser Gln	Arg Lys Pro Ala Ile Thr		
230	235	240	
Tyr Gly Thr Arg Gly Asn Ser Tyr Phe	Met Val Glu Val Lys Cys		
245	250	255	
Arg Asp Gln Asp Phe His Ser Gly Thr	Phe Gly Gly Ile Leu His		
260	265	270	
Glu Pro Met Ala Asp Leu Val Ala Leu	Leu Gly Ser Leu Val Asp		
275	280	285	
Ser Ser Gly His Ile Leu Val Pro Gly	Ile Tyr Asp Glu Val Val		
290	295	300	
Pro Leu Thr Glu Glu Glu Ile Asn Thr	Tyr Lys Ala Ile His Leu		
305	310	315	
Asp Leu Glu Glu Tyr Arg Asn Ser Ser	Arg Val Glu Lys Phe Leu		
320	325	330	
Phe Asp Thr Lys Glu Glu Ile Leu Met	His Leu Trp Arg Tyr Pro		
335	340	345	
Ser Leu Ser Ile His Gly Ile Glu Gly	Ala Phe Asp Glu Pro Gly		
350	355	360	
Thr Lys Thr Val Ile Pro Gly Arg Val	Ile Gly Lys Phe Ser Ile		
365	370	375	
Arg Leu Val Pro His Met Asn Val Ser	Ala Val Glu Lys Gln Val		
380	385	390	
Thr Arg His Leu Glu Asp Val Phe Ser	Lys Arg Asn Ser Ser Asn		
395	400	405	
Lys Met Val Val Ser Met Thr Leu Gly	Leu His Pro Trp Ile Ala		
410	415	420	
Asn Ile Asp Asp Thr Gln Tyr Leu Ala	Ala Lys Arg Ala Ile Arg		
425	430	435	
Thr Val Phe Gly Thr Glu Pro Asp Met	Ile Arg Asp Gly Ser Thr		
440	445	450	
Ile Pro Ile Ala Lys Met Phe Gln Glu	Ile Val His Lys Ser Val		
455	460	465	

Val Leu Ile Pro Leu Gly Ala Val Asp Asp Gly Glu His Ser Gln  
470 475 480

Asn Glu Lys Ile Asn Arg Trp Asn Tyr Ile Glu Gly Thr Lys Leu  
485 490 495

Phe Ala Ala Phe Phe Leu Glu Met Ala Gln Leu His  
500 505

<210> 58

<211> 1470

<212> DNA

<213> Homo Sapien

<400> 58

ctcggctgga tttaagggtg ccgctagccg cctgggaatt taagggaccc 50  
acactacctt cccgaagttg aaggcaagcg gtgattgttt gtagacggcg 100  
ctttgtcatg ggacctgtgc ggttgggaat attgcttttc ctttttttgg 150  
ccgtgcacga ggcttgggct gggatgttga aggaggagga cgatgacaca 200  
gaacgcttgc ccagcaaatg cgaagtgtgt aagctgctga gcacagagct 250  
acaggcggaa ctgagtcgca ccggtcgatc tcgagaggtg ctggagctgg 300  
ggcaggtgct ggatacaggc aagaggaaga gacacgtgcc ttacagcgtt 350  
tcagagacaa ggctggaaga ggccttagag aatttatgtg agcggatcct 400  
ggactatagt gttcacgctg agcgcaaggg ctcaactgaga tatgccaagg 450  
gtcagagtca gaccatggca acactgaaag gcctagtga gaaggggggtg 500  
aaggtggatc tggggatccc tctggagctt tgggatgagc ccagcgtgga 550  
ggtcacatac ctcaagaagc agtgtgagac catgttggag gagtttgaag 600  
acattgtggg agactggtac ttccaccatc aggagcagcc cctacaaaat 650  
tttctctgtg aaggtcatgt gctcccagct gctgaaactg catgtctaca 700  
ggaaacttgg actggaaagg agatcacaga tggggaagag aaaacagaag 750  
gggaggaaga gcaggaggag gaggaggaag aggaggaaga ggaaggggga 800  
gacaagatga ccaagacagg aagccacccc aaacttgacc gagaagatct 850  
ttgacccttg cttttgagcc ccaggaggg gaagggatca tggagagccc 900  
tctaaagcct gcactctccc tgctccacag ctttcagggg gtgtttatga 950  
gtgactccac ccaagcttgt agctgttctc tcccatctaa cctcaggcaa 1000  
gatcctggtg aaacagcatg acatggcttc tgggggtggag ggtgggggtg 1050  
gaggtcctgc tcctagagat gaactctatc cagcccctta attggcaggt 1100

gtatgtgctg acagtactga aagcttttct ctttaactga tcccaccccc 1150  
 acccaaaagt cagcagtggc actggagctg tgggctttgg ggaagtcact 1200  
 tagctcctta aggtctgttt ttagaccctt ccaaggaaga ggccagaacg 1250  
 gacattctct gcgatctata tacattgcct gtatccagga ggctacacac 1300  
 cagcaaaccg tgaaggagaa tgggacactg ggtcatggcc tggagttgct 1350  
 gataatttag gtgggataga tacttgggtct acttaagctc aatgtaaccc 1400  
 agagcccacc atatagtttt atagggtgctc aactttctat atcgctatta 1450  
 aacttttttc tttttttcta 1470

<210> 59  
 <211> 248  
 <212> PRT  
 <213> Homo Sapien

<400> 59  
 Met Gly Pro Val Arg Leu Gly Ile Leu Leu Phe Leu Phe Leu Ala 15  
 1 5 10  
 Val His Glu Ala Trp Ala Gly Met Leu Lys Glu Glu Asp Asp Asp 30  
 20 25  
 Thr Glu Arg Leu Pro Ser Lys Cys Glu Val Cys Lys Leu Leu Ser 45  
 35 40  
 Thr Glu Leu Gln Ala Glu Leu Ser Arg Thr Gly Arg Ser Arg Glu 60  
 50 55  
 Val Leu Glu Leu Gly Gln Val Leu Asp Thr Gly Lys Arg Lys Arg 75  
 65 70  
 His Val Pro Tyr Ser Val Ser Glu Thr Arg Leu Glu Glu Ala Leu 90  
 80 85  
 Glu Asn Leu Cys Glu Arg Ile Leu Asp Tyr Ser Val His Ala Glu 105  
 95 100  
 Arg Lys Gly Ser Leu Arg Tyr Ala Lys Gly Gln Ser Gln Thr Met 120  
 110 115  
 Ala Thr Leu Lys Gly Leu Val Gln Lys Gly Val Lys Val Asp Leu 135  
 125 130  
 Gly Ile Pro Leu Glu Leu Trp Asp Glu Pro Ser Val Glu Val Thr 150  
 140 145  
 Tyr Leu Lys Lys Gln Cys Glu Thr Met Leu Glu Glu Phe Glu Asp 165  
 155 160  
 Ile Val Gly Asp Trp Tyr Phe His His Gln Glu Gln Pro Leu Gln 180  
 170 175

Asn	Phe	Leu	Cys	Glu	Gly	His	Val	Leu	Pro	Ala	Ala	Glu	Thr	Ala
				185					190					195
Cys	Leu	Gln	Glu	Thr	Trp	Thr	Gly	Lys	Glu	Ile	Thr	Asp	Gly	Glu
				200					205					210
Glu	Lys	Thr	Glu	Gly	Glu	Glu	Glu	Gln	Glu	Glu	Glu	Glu	Glu	Glu
				215					220					225
Glu	Glu	Glu	Glu	Gly	Gly	Asp	Lys	Met	Thr	Lys	Thr	Gly	Ser	His
				230					235					240
Pro	Lys	Leu	Asp	Arg	Glu	Asp	Leu							
				245										

<210> 60  
 <211> 890  
 <212> DNA  
 <213> Homo Sapien

<400> 60  
 aagtacttgt gtccgggtgg tggactggat tagctgcgga gccctggaag 50  
 ctgcctgtcc ttctccctgt gcttaaccag aggtgcccac gggttggaca 100  
 atgaggctgg tcacagcagc actgttactg ggtctcatga tggtggtcac 150  
 tggagacgag gatgagaaca gcccggtgtgc ccatgaggcc ctcttgacg 200  
 aggacaccct cttttgccag ggccttgaag ttttctaccc agagttgggg 250  
 aacattggct gcaagggtgt tcctgattgt aacaactaca gacagaagat 300  
 cacctcctgg atggagccga tagtcaagtt cccggggggc gtggacggcg 350  
 caacctatat cctggtgatg gtggatccag atgccctag cagagcagaa 400  
 cccagacaga gattctggag acattggctg gtaacagata tcaagggcgc 450  
 cgacctgaag aaaggggaaga ttcagggcca ggagttatca gcctaccagg 500  
 ctccctcccc accggcacac agtggttcc atcgctacca gttctttgtc 550  
 tatcttcagg aaggaaaagt catctctctc cttcccaagg aaaacaaac 600  
 tcgaggctct tggaaaatgg acagatttct gaaccgcttc cacctgggcg 650  
 aacctgaagc aagcaccag ttcattgaccc agaactacca ggactacca 700  
 accctccagg ctcccagagg aagggccagc gagccaagc acaaaaccag 750  
 gcagagatag ctgcctgcta gatagccggc tttgccatcc gggcatgtgg 800  
 ccacactgct caccaccgac gatgtgggta tggaaccccc tctggataca 850  
 gaacccttc ttttccaaat taaaaaaaaa aatcatcaaa 890

<210> 61

<211> 223  
 <212> PRT  
 <213> Homo Sapien

<400> 61

Met	Gly	Trp	Thr	Met	Arg	Leu	Val	Thr	Ala	Ala	Leu	Leu	Leu	Gly	15
1				5					10						
Leu	Met	Met	Val	Val	Thr	Gly	Asp	Glu	Asp	Glu	Asn	Ser	Pro	Cys	30
			20						25						
Ala	His	Glu	Ala	Leu	Leu	Asp	Glu	Asp	Thr	Leu	Phe	Cys	Gln	Gly	45
			35						40						
Leu	Glu	Val	Phe	Tyr	Pro	Glu	Leu	Gly	Asn	Ile	Gly	Cys	Lys	Val	60
			50						55						
Val	Pro	Asp	Cys	Asn	Asn	Tyr	Arg	Gln	Lys	Ile	Thr	Ser	Trp	Met	75
			65						70						
Glu	Pro	Ile	Val	Lys	Phe	Pro	Gly	Ala	Val	Asp	Gly	Ala	Thr	Tyr	90
			80						85						
Ile	Leu	Val	Met	Val	Asp	Pro	Asp	Ala	Pro	Ser	Arg	Ala	Glu	Pro	105
			95						100						
Arg	Gln	Arg	Phe	Trp	Arg	His	Trp	Leu	Val	Thr	Asp	Ile	Lys	Gly	120
			110						115						
Ala	Asp	Leu	Lys	Lys	Gly	Lys	Ile	Gln	Gly	Gln	Glu	Leu	Ser	Ala	135
			125						130						
Tyr	Gln	Ala	Pro	Ser	Pro	Pro	Ala	His	Ser	Gly	Phe	His	Arg	Tyr	150
			140						145						
Gln	Phe	Phe	Val	Tyr	Leu	Gln	Glu	Gly	Lys	Val	Ile	Ser	Leu	Leu	165
			155						160						
Pro	Lys	Glu	Asn	Lys	Thr	Arg	Gly	Ser	Trp	Lys	Met	Asp	Arg	Phe	180
			170						175						
Leu	Asn	Arg	Phe	His	Leu	Gly	Glu	Pro	Glu	Ala	Ser	Thr	Gln	Phe	195
			185						190						
Met	Thr	Gln	Asn	Tyr	Gln	Asp	Ser	Pro	Thr	Leu	Gln	Ala	Pro	Arg	210
			200						205						
Gly	Arg	Ala	Ser	Glu	Pro	Lys	His	Lys	Thr	Arg	Gln	Arg			220
			215						220						

<210> 62  
 <211> 1321  
 <212> DNA  
 <213> Homo Sapien

<400> 62

gtcgacccac gcgtccgaag ctgctggagc cagattcag tcccctggac 50

tgtagataaa gaccctttct tgccaggtgc tgagacaacc acactatgag 100  
 aggcactcca ggagacgctg atggtggagg aagggccgctc tatcaatcaa 150  
 tcaactgttc tgttatcaca tgcaagtatc cagaggctct tgagcaaggc 200  
 agaggggatc ccatttattt gggaatccag aatccagaaa tgtgtttgta 250  
 ttgtgagaag gttggagaac agcccacatt gcagctaaaa gagcagaaga 300  
 tcatggatct gtatggccaa cccgagcccg tgaaaccctt ccttttctac 350  
 cgtgccaaga ctggtaggac ctccaccctt gagtctgtgg ccttcccgga 400  
 ctggttcatt gcctcctcca agagagacca gcccatcatt ctgacttcag 450  
 aacttgggaa gtcatacaac actgcctttg aattaaatat aaatgactga 500  
 actcagccta gaggtggcag cttgggtcttt gtcttaaagt ttctggttcc 550  
 caatgtgttt tcgtctacat tttcttagtg tcattttcac gctggtgctg 600  
 agacaggagc aaggctgctg ttatcatctc attttataat gaagaagaag 650  
 caattacttc atagcaactg aagaacagga tgtggcctca gaagcaggag 700  
 agctgggtgg tataaggctg tcctctcaag ctgggtgctgt gtaggccaca 750  
 aggcactgctc atgagtgact ttaagactca aagaccaaac actgagcttt 800  
 cttctagggg tgggtatgaa gatgcttcag agctcatgcg cgttaccac 850  
 gatggcatga ctagcacaga gctgatctct gtttctgttt tgctttatcc 900  
 cctcttggga tgatatcatc cagtctttat atggtgcaa tatactcat 950  
 tgtgtgtaat agaaccttct tagcattaag accttgtaa caaaaataat 1000  
 tcttggggtg ggtatgaaga tgcttcagag ctcatgcgcg ttaccacga 1050  
 tggcatgact agcacagagc tgatctctgt ttctgttttg ctttattccc 1100  
 tcttgggatg atatcatcca gtctttatat gttgccaata tacctcattg 1150  
 tgtgtaatag aaccttctta gcattaagac cttgtaaaca aaaataattc 1200  
 ttgtgttaag ttaaatcatt tttgtcctaa ttgtaatgtg taatcttaaa 1250  
 gttaaataaa ctttgtgtat ttatataata ataaagctaa aactgatata 1300  
 aaataaagaa agagtaaact g 1321

<210> 63  
 <211> 134  
 <212> PRT  
 <213> Homo Sapien  
 <400> 63

Met Arg Gly Thr Pro Gly Asp Ala Asp Gly Gly Gly Arg Ala Val  
 1 5 10 15  
 Tyr Gln Ser Ile Thr Val Ala Val Ile Thr Cys Lys Tyr Pro Glu  
 20 25 30  
 Ala Leu Glu Gln Gly Arg Gly Asp Pro Ile Tyr Leu Gly Ile Gln  
 35 40 45  
 Asn Pro Glu Met Cys Leu Tyr Cys Glu Lys Val Gly Glu Gln Pro  
 50 55 60  
 Thr Leu Gln Leu Lys Glu Gln Lys Ile Met Asp Leu Tyr Gly Gln  
 65 70 75  
 Pro Glu Pro Val Lys Pro Phe Leu Phe Tyr Arg Ala Lys Thr Gly  
 80 85 90  
 Arg Thr Ser Thr Leu Glu Ser Val Ala Phe Pro Asp Trp Phe Ile  
 95 100 105  
 Ala Ser Ser Lys Arg Asp Gln Pro Ile Ile Leu Thr Ser Glu Leu  
 110 115 120  
 Gly Lys Ser Tyr Asn Thr Ala Phe Glu Leu Asn Ile Asn Asp  
 125 130

<210> 64  
 <211> 999  
 <212> DNA  
 <213> Homo Sapien

<400> 64  
 gcgaggctgc accagcgccct ggcacccatga ggacgcctgg gcctctgccc 50  
 gtgctgctgc tgctcctggc gggagcccc gccgcgcggc ccaactcccc 100  
 gacctgctac tcccgcatgc gggccctgag ccaggagatc acccgcgact 150  
 tcaacctcct gcaggtctcg gagccctcgg agccatgtgt gagatacctg 200  
 cccaggctgt acctggacat acacaattac tgtgtgctgg acaagctgcg 250  
 ggactttgtg gcctcgcccc cgtgttgga agtgggccag gtagattcct 300  
 tgaaggacaa agcacggaag ctgtacacca tcatgaactc gttctgcagg 350  
 agagatttgg tattcctggt ggatgactgc aatgccttgg aatacccaat 400  
 cccagtgact acggtcctgc cagatcgtca gcgctaagg aactgagacc 450  
 agagaaagaa cccaagagaa ctaaagttat gtcagctacc cagacttaat 500  
 gggccagagc catgaccctc acaggtcttg tgtagttgt atctgaaact 550  
 gttatgtatc tctctacctt ctggaaaaca gggctggtat tcctaccag 600  
 gaacctcctt ttagcataga gtttagcaacc atgcttctca ttcccttgac 650

tcattgtcttg ccaggatggt tagatacaca gcatgttgat ttggtcacta 700  
 aaaagaagaa aaggactaac aagcttcact tttatgaaca actattttga 750  
 gaacatgcac aatagtatgt ttttattact ggtttaatgg agtaatggta 800  
 cttttattct ttcttgatag aaacctgctt acatttaacc aagcttctat 850  
 tatgcctttt tctaacacag actttcttca ctgtctttca tttaaaaaga 900  
 aattaatgct cttaagatat atattttacg tagtgctgac aggacccact 950  
 ctttcattga aagtgatga aaatcaaata aagaatctct tcacatgga 999

<210> 65  
 <211> 136  
 <212> PRT  
 <213> Homo Sapien

<400> 65  
 Met Arg Thr Pro Gly Pro Leu Pro Val Leu Leu Leu Leu Leu Ala  
 1 5 10 15  
 Gly Ala Pro Ala Ala Arg Pro Thr Pro Pro Thr Cys Tyr Ser Arg  
 20 25 30  
 Met Arg Ala Leu Ser Gln Glu Ile Thr Arg Asp Phe Asn Leu Leu  
 35 40 45  
 Gln Val Ser Glu Pro Ser Glu Pro Cys Val Arg Tyr Leu Pro Arg  
 50 55 60  
 Leu Tyr Leu Asp Ile His Asn Tyr Cys Val Leu Asp Lys Leu Arg  
 65 70 75  
 Asp Phe Val Ala Ser Pro Pro Cys Trp Lys Val Ala Gln Val Asp  
 80 85 90  
 Ser Leu Lys Asp Lys Ala Arg Lys Leu Tyr Thr Ile Met Asn Ser  
 95 100 105  
 Phe Cys Arg Arg Asp Leu Val Phe Leu Leu Asp Asp Cys Asn Ala  
 110 115 120  
 Leu Glu Tyr Pro Ile Pro Val Thr Thr Val Leu Pro Asp Arg Gln  
 125 130 135

Arg

<210> 66  
 <211> 1893  
 <212> DNA  
 <213> Homo Sapien

<400> 66  
 gtctccgcgt cacaggaact tcagcaccca cagggcggac agcgctcccc 50



tctacctgga gacttgactc ccgcgcgccc caacctgct tatcccttga 100  
ccgtcagtg ttagagatcc tgcagccgcc cagtcccggc cctctctccg 150  
ccccacacc accctcctgg ctcttcctgt ttttactcct ccttttcatt 200  
cataacaaaa gctacagctc caggagccca gcgcggggct gtgacccaag 250  
ccgagcgtgg aagaatgggg ttcttcggga ccggcacttg gattctggtg 300  
ttagtgtccc cgattcaagc tttcccaaaa cctggaggaa gccaagacaa 350  
atctctacat aatagagaat taagtgcaga aagacctttg aatgaacaga 400  
ttgctgaagc agaagaagac aagattaaaa aaacatatcc tccagaaaac 450  
aagccaggtc agagcaacta ttcttttgtt gataacttga acctgctaaa 500  
ggcaataaca gaaaaggaaa aaattgagaa agaaagacaa tctataagaa 550  
gctccccact tgataataag ttgaatgtgg aagatgttga ttcaaccaag 600  
aatcgaaaac tgatcgatga ttatgactct actaagagtg gattggatca 650  
taaatttcaa gatgatccag atgggtcttca tcaactagac gggactcctt 700  
taaccgtga agacattgtc cataaaatcg ctgccaggat ttatgaagaa 750  
aatgacagag ccgtgtttga caagattgtt tctaaactac ttaatctcgg 800  
ccttatcaca gaaagccaag cacatacact ggaagatgaa gtagcagagg 850  
ttttacaaaa attaattctca aaggaagcca acaattatga ggaggatccc 900  
aataagccca caagctggac tgagaatcag gctggaaaaa taccagagaa 950  
agtgactcca atggcagcaa ttcaagatgg tcttgctaag ggagaaaacg 1000  
atgaaacagt atctaacaca ttaaccttga caaatggcctt ggaaaggaga 1050  
actaaaacct acagtgaaga caactttgag gaactccaat atttcccaaa 1100  
tttctatgcg ctactgaaaa gtattgattc agaaaaagaa gcaaaaagaga 1150  
aagaaacact gattactatc atgaaaacac tgattgactt tgtgaagatg 1200  
atggtgaaat atggaacaat atctccagaa gaaggtgttt cctaccttga 1250  
aaacttggat gaaatgattg ctcttcagac caaaaacaag ctagaaaaaa 1300  
atgctactga caatataagc aagcttttcc cagcaccatc agagaagagt 1350  
catgaagaaa cagacagtac caaggaagaa gcagctaaga tggaaaagga 1400  
atatggaagc ttgaaggatt ccacaaaaga tgataactcc aaccaggag 1450  
gaaagacaga tgaacccaaa ggaaaaacag aagcctattht ggaagccatc 1500

agaaaaaata ttgaatgggt gaagaaacat gacaaaaagg gaaataaaga 1550  
 agattatgac ctttcaaaga tgagagactt catcaataaa caagctgatg 1600  
 cttatgtgga gaaaggcatc cttgacaagg aagaagccga ggccatcaag 1650  
 cgcatttata gcagcctgta aaaatggcaa aagatccagg agtctttcaa 1700  
 ctgtttcaga aacataata tagcttaaaa cacttctaata tctgtgatta 1750  
 aaatTTTTTtg acccaagggt tattagaaag tgctgaattt acagtagtta 1800  
 accttttaca agtgggttaa acatagcttt cttcccgtaa aaactatctg 1850  
 aaagtaaagt tgtatgtaag ctgaaaaaaaa aaaaaaaaaa aaa 1893

<210> 67  
 <211> 468  
 <212> PRT  
 <213> Homo Sapien

<400> 67  
 Met Gly Phe Leu Gly Thr Gly Thr Trp Ile Leu Val Leu Val Leu 15  
 1 5 10  
 Pro Ile Gln Ala Phe Pro Lys Pro Gly Gly Ser Gln Asp Lys Ser 30  
 20 25  
 Leu His Asn Arg Glu Leu Ser Ala Glu Arg Pro Leu Asn Glu Gln 45  
 35 40  
 Ile Ala Glu Ala Glu Glu Asp Lys Ile Lys Lys Thr Tyr Pro Pro 60  
 50 55  
 Glu Asn Lys Pro Gly Gln Ser Asn Tyr Ser Phe Val Asp Asn Leu 75  
 65 70  
 Asn Leu Leu Lys Ala Ile Thr Glu Lys Glu Lys Ile Glu Lys Glu 90  
 80 85  
 Arg Gln Ser Ile Arg Ser Ser Pro Leu Asp Asn Lys Leu Asn Val 105  
 95 100  
 Glu Asp Val Asp Ser Thr Lys Asn Arg Lys Leu Ile Asp Asp Tyr 120  
 110 115  
 Asp Ser Thr Lys Ser Gly Leu Asp His Lys Phe Gln Asp Asp Pro 135  
 125 130  
 Asp Gly Leu His Gln Leu Asp Gly Thr Pro Leu Thr Ala Glu Asp 150  
 140 145  
 Ile Val His Lys Ile Ala Ala Arg Ile Tyr Glu Glu Asn Asp Arg 165  
 155 160  
 Ala Val Phe Asp Lys Ile Val Ser Lys Leu Leu Asn Leu Gly Leu 180  
 170 175

Ile Thr Glu Ser Gln Ala His Thr Leu Glu Asp Glu Val Ala Glu  
 185 190 195  
 Val Leu Gln Lys Leu Ile Ser Lys Glu Ala Asn Asn Tyr Glu Glu  
 200 205 210  
 Asp Pro Asn Lys Pro Thr Ser Trp Thr Glu Asn Gln Ala Gly Lys  
 215 220 225  
 Ile Pro Glu Lys Val Thr Pro Met Ala Ala Ile Gln Asp Gly Leu  
 230 235 240  
 Ala Lys Gly Glu Asn Asp Glu Thr Val Ser Asn Thr Leu Thr Leu  
 245 250 255  
 Thr Asn Gly Leu Glu Arg Arg Thr Lys Thr Tyr Ser Glu Asp Asn  
 260 265 270  
 Phe Glu Glu Leu Gln Tyr Phe Pro Asn Phe Tyr Ala Leu Leu Lys  
 275 280 285  
 Ser Ile Asp Ser Glu Lys Glu Ala Lys Glu Lys Glu Thr Leu Ile  
 290 295 300  
 Thr Ile Met Lys Thr Leu Ile Asp Phe Val Lys Met Met Val Lys  
 305 310 315  
 Tyr Gly Thr Ile Ser Pro Glu Glu Gly Val Ser Tyr Leu Glu Asn  
 320 325 330  
 Leu Asp Glu Met Ile Ala Leu Gln Thr Lys Asn Lys Leu Glu Lys  
 335 340 345  
 Asn Ala Thr Asp Asn Ile Ser Lys Leu Phe Pro Ala Pro Ser Glu  
 350 355 360  
 Lys Ser His Glu Glu Thr Asp Ser Thr Lys Glu Glu Ala Ala Lys  
 365 370 375  
 Met Glu Lys Glu Tyr Gly Ser Leu Lys Asp Ser Thr Lys Asp Asp  
 380 385 390  
 Asn Ser Asn Pro Gly Gly Lys Thr Asp Glu Pro Lys Gly Lys Thr  
 395 400 405  
 Glu Ala Tyr Leu Glu Ala Ile Arg Lys Asn Ile Glu Trp Leu Lys  
 410 415 420  
 Lys His Asp Lys Lys Gly Asn Lys Glu Asp Tyr Asp Leu Ser Lys  
 425 430 435  
 Met Arg Asp Phe Ile Asn Lys Gln Ala Asp Ala Tyr Val Glu Lys  
 440 445 450  
 Gly Ile Leu Asp Lys Glu Glu Ala Glu Ala Ile Lys Arg Ile Tyr  
 455 460 465  
 Ser Ser Leu

<210> 68  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 68  
cgtcacagga acttcagcac cc 22

<210> 69  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 69  
gtcttggett cctccaggtt tgg 23

<210> 70  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 70  
ggacagcgct cccctctacc tggagacttg actcccgc 38

<210> 71  
<211> 2379  
<212> DNA  
<213> Homo Sapien

<400> 71  
gttgctccgg cggcgctcgg ggagggagcc agcagcctag ggcctaggcc 50  
cgggccacca tggcgctgcc tccaggccca gccgccctcc ggcacacact 100  
gctgctcctg ccagcccttc tgagctcagg ttggggggag ttggagccac 150  
aaatagatgg tcagacctgg gctgagcggg cacttcggga gaatgaacgc 200  
cacgccttca cctgccgggt ggcagggggg cctggcacc cagattggc 250  
ctggtatctg gatggacagc tgcaggaggc cagcacctca agactgctga 300  
gcgtgggagg ggaggccttc tctggaggca ccagcacctt cactgtcact 350  
gcccacggg cccagcatga gctcaactgc tctctgcagg accccagaag 400  
tggccgatca gccaacgcct ctgtcatcct taatgtgcaa ttcaagccag 450

agattgccca agtcggcgcc aagtaccagg aagctcaggg cccaggcctc 500  
 ctggttgctc tgtttgccct ggtgcgtgcc aaccgcccgg ccaatgtcac 550  
 ctggatcgac caggatgggc cagtgactgt caacacctct gacttcttg 600  
 tgcaggatgc gcagaactac cctgggtca ccaaccacac ggtgcagctg 650  
 cagctccgca gcctggcaca caacctctcg gtgggtggcca ccaatgacgt 700  
 ggggtgcacc agtgcgctgc ttccagcccc agggccctcc cggcacccat 750  
 ctctgatatc aagtgactcc aacaacctaa aactcaacaa cgtgcgcctg 800  
 ccacgggaga acatgtccct cccgtccaac ctccagctca atgacctcac 850  
 tccagattcc agagcagtga aaccagcaga ccggcagatg gtcagaaca 900  
 acagccggcc agagcttctg gaccgggagc ccggcggcct cctcaccagc 950  
 caaggtttca tccgcctccc agtgctgggc tatatctatc gagtgtccag 1000  
 cgtgagcagt gatgagatct ggctctgagc cgagggcgag acaggagtat 1050  
 tctcttgccc tctggacacc ctcccattcc tccaaggcat cctctaccta 1100  
 gctaggtcac caacgtgaag aagttatgcc actgccactt ttgcttgccc 1150  
 tcctggctgg ggtgccctcc atgtcatgca cgtgatgcat ttcactgggc 1200  
 tgtaaccgca aggggcacag gtatctttgg caaggctacc agttggacgt 1250  
 aagccctca tgctgactca ggggtgggccc tgcattgatg gactgggccc 1300  
 ttccagaggg agctctttgg ccaggggtgt tcagatgtca tccagcatcc 1350  
 aagtgtggca tggcctgctg tataccccac ccagtgactc cacagcacct 1400  
 tgtacagtag gcatgggggc gtgcctgtgt gggggacagg gagggccctg 1450  
 catggatttt cctccttct atgctatgta gccttgctcc ctcaggtaaa 1500  
 atttaggacc ctgctagctg tgcagaacct aattgccctt tgcacagaaa 1550  
 ccaacccctg acccagcggg accggccaag cacaacgctc ctttttgctg 1600  
 cacacgtctc tgcccttcac ttcttctct ctgtccccac ctctcttg 1650  
 gaattctagg ttacacgttg gaccttctct actacttcac tgggcaactag 1700  
 acttttctat tggcctgtgc catcgcccag tattagcaca agttagggag 1750  
 gaagaggcag gcatgagtc tagtagcacc caggacggct ttagctatg 1800  
 catcattttc ctacggcggt agcactttaa gcacatcccc taggggaggg 1850  
 ggtgagttag gggcccagag ccctctttgt ggcttcccca cgtttggcct 1900

tctgggattc actgtgagtg tcctgagctc tcgggggttg tggtttttct 1950  
ctcagcatgt ctctccacc acgggacccc agccctgacc aacccatggg 2000  
tgcctcatca gcaggaaggt gcccttcttg gaggatgggc gccacaggca 2050  
cataattcaa cagtgtggaa gcttttagggg aacatggaga aagaaggaga 2100  
ccacataccc caaagtgacc taagaacact ttaaaaagca acatgtaaat 2150  
gattggaaat taatatagta cagaatatat ttttccttg ttgagatctt 2200  
cttttgtaat gtttttcatg ttactgccta gggcgggtgct gagcacacag 2250  
caagtttaat aaacttgact gaattcattt aaaaaaaaaa aaaaaaaaaa 2300  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2350  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2379

<210> 72  
<211> 322  
<212> PRT  
<213> Homo Sapien

<400> 72  
Met Ala Leu Pro Pro Gly Pro Ala Ala Leu Arg His Thr Leu Leu 15  
1 5 10  
Leu Leu Pro Ala Leu Leu Ser Ser Gly Trp Gly Glu Leu Glu Pro 30  
20 25  
Gln Ile Asp Gly Gln Thr Trp Ala Glu Arg Ala Leu Arg Glu Asn 45  
35 40  
Glu Arg His Ala Phe Thr Cys Arg Val Ala Gly Gly Pro Gly Thr 60  
50 55  
Pro Arg Leu Ala Trp Tyr Leu Asp Gly Gln Leu Gln Glu Ala Ser 75  
65 70  
Thr Ser Arg Leu Leu Ser Val Gly Gly Glu Ala Phe Ser Gly Gly 90  
80 85  
Thr Ser Thr Phe Thr Val Thr Ala His Arg Ala Gln His Glu Leu 105  
95 100  
Asn Cys Ser Leu Gln Asp Pro Arg Ser Gly Arg Ser Ala Asn Ala 120  
110 115  
Ser Val Ile Leu Asn Val Gln Phe Lys Pro Glu Ile Ala Gln Val 135  
125 130  
Gly Ala Lys Tyr Gln Glu Ala Gln Gly Pro Gly Leu Leu Val Val 150  
140 145  
Leu Phe Ala Leu Val Arg Ala Asn Pro Pro Ala Asn Val Thr Trp 165  
155 160

Ile Asp Gln Asp Gly Pro Val Thr Val Asn Thr Ser Asp Phe Leu  
 170 175 180  
 Val Leu Asp Ala Gln Asn Tyr Pro Trp Leu Thr Asn His Thr Val  
 185 190 195  
 Gln Leu Gln Leu Arg Ser Leu Ala His Asn Leu Ser Val Val Ala  
 200 205 210  
 Thr Asn Asp Val Gly Val Thr Ser Ala Ser Leu Pro Ala Pro Gly  
 215 220 225  
 Pro Ser Arg His Pro Ser Leu Ile Ser Ser Asp Ser Asn Asn Leu  
 230 235 240  
 Lys Leu Asn Asn Val Arg Leu Pro Arg Glu Asn Met Ser Leu Pro  
 245 250 255  
 Ser Asn Leu Gln Leu Asn Asp Leu Thr Pro Asp Ser Arg Ala Val  
 260 265 270  
 Lys Pro Ala Asp Arg Gln Met Ala Gln Asn Asn Ser Arg Pro Glu  
 275 280 285  
 Leu Leu Asp Pro Glu Pro Gly Gly Leu Leu Thr Ser Gln Gly Phe  
 290 295 300  
 Ile Arg Leu Pro Val Leu Gly Tyr Ile Tyr Arg Val Ser Ser Val  
 305 310 315  
 Ser Ser Asp Glu Ile Trp Leu  
 320

<210> 73  
 <211> 843  
 <212> DNA  
 <213> Homo Sapien

<400> 73  
 cggggacgga agcggcccct gggcccgagg ggctggagcc gggccggggc 50  
 gatgtggagc gcggggccgcg gcggggctgc ctggccggtg ctggtggggc 100  
 tgctgctggc gctgttagtg ccggggcggg gtgccgcaa gaccggtgcg 150  
 gagctcgtga cctgcgggtc ggtgctgaag ctgctcaata cgcaccaccg 200  
 cgtgcggctg cactcgcacg acatcaaata cggatccggc agcggccagc 250  
 aatcggtgac cggcgtagag gcgtcggacg acgccaatag ctactggcgg 300  
 atccgcggcg gctcggaggg cgggtgcccg cgcggtccc cggtgcgctg 350  
 cgggcaggcg gtgaggctca cgcattgtgt tacgggcaag aacctgcaca 400  
 cgcaccactt cccgtcgccg ctgtccaaca accaggaggt gattgccttt 450  
 ggggaagacg gcgagggcga cgacctggac ctatggacag tgcgctgctc 500

tggacagcac tgggagcgtg aggctgctgt gcgcttccag catgtgggca 550  
 cctctgtgtt cctgtcagtc acgggtgagc agtatggaag ccccatccgt 600  
 gggcagcatg aggtccacgg catgcccagt gccaacacgc acaatacgtg 650  
 gaaggccatg gaaggcatct tcatcaagcc tagtgtggag ccctctgcag 700  
 gtcacgatga actctgagtg tgtggatgga tgggtggatg gaggggtggca 750  
 ggtggggcgt ctgcagggcc actcttggca gagactttgg gttttaggg 800  
 gtcccaagt gcctttgtga ttaaagaatg ttggtctatg aaa 843

<210> 74  
 <211> 221  
 <212> PRT  
 <213> Homo Sapien

<400> 74  
 Met Trp Ser Ala Gly Arg Gly Gly Ala Ala Trp Pro Val Leu Leu  
 1 5 10 15  
 Gly Leu Leu Leu Ala Leu Leu Val Pro Gly Gly Gly Ala Ala Lys  
 20 25 30  
 Thr Gly Ala Glu Leu Val Thr Cys Gly Ser Val Leu Lys Leu Leu  
 35 40 45  
 Asn Thr His His Arg Val Arg Leu His Ser His Asp Ile Lys Tyr  
 50 55 60  
 Gly Ser Gly Ser Gly Gln Gln Ser Val Thr Gly Val Glu Ala Ser  
 65 70 75  
 Asp Asp Ala Asn Ser Tyr Trp Arg Ile Arg Gly Gly Ser Glu Gly  
 80 85 90  
 Gly Cys Pro Arg Gly Ser Pro Val Arg Cys Gly Gln Ala Val Arg  
 95 100 105  
 Leu Thr His Val Leu Thr Gly Lys Asn Leu His Thr His His Phe  
 110 115 120  
 Pro Ser Pro Leu Ser Asn Asn Gln Glu Val Ser Ala Phe Gly Glu  
 125 130 135  
 Asp Gly Glu Gly Asp Asp Leu Asp Leu Trp Thr Val Arg Cys Ser  
 140 145 150  
 Gly Gln His Trp Glu Arg Glu Ala Ala Val Arg Phe Gln His Val  
 155 160 165  
 Gly Thr Ser Val Phe Leu Ser Val Thr Gly Glu Gln Tyr Gly Ser  
 170 175 180  
 Pro Ile Arg Gly Gln His Glu Val His Gly Met Pro Ser Ala Asn  
 185 190 195



Thr His Asn Thr Trp Lys Ala Met Glu Gly Ile Phe Ile Lys Pro  
 200 205 210

Ser Val Glu Pro Ser Ala Gly His Asp Glu Leu  
 215 220

<210> 75  
 <211> 1049  
 <212> DNA  
 <213> Homo Sapien

<400> 75  
 gttgctatgt tgcccaggct ggtcttgaag tgccttgacc tcctaaagtg 50  
 ttggaaccac agacgtgagc cactccaccc agcctaaaac ttcattcttct 100  
 ttggatgaga tgaacacttt taacaagaga acaggactct atataaatcg 150  
 ctgtgggctc accacctcta aggaggagca ctgactgaag acagaaaaat 200  
 tgatgaactg aagaagacat ggtccattat gccttacaaa cttacacagt 250  
 gctttgggaa ttccaaagta ctgagtggag agaggtgttt caggagccgt 300  
 agagccagat cgtcatcatg tctgcattgt ggctgctgct gggcctcctt 350  
 gccctgatgg acttgtctga aagcagcaac tggggatgct atggaaacat 400  
 ccaaagcctg gacaccctg gagcatcttg tgggattgga agacgtcacg 450  
 gcctgaacta ctgtggagtt cgtgcttctg aaaggctggc tgaaatagac 500  
 atgccatacc tcttgaaata tcaacccatg atgcaaacca ttggccaaaa 550  
 gtactgcatg gatcctgccg tgatcgctgg tgtcttgctc aggaagtctc 600  
 ccggtgacaa aattctggtc aacatgggcg ataggactag catggtgcag 650  
 gaccctggct ctcaagctcc cacatcctgg attagtgagt ctgaggttct 700  
 ccagacaact gaagttctga ctactagaat caaagaaatc cagaggaggt 750  
 ttccaacctg gaccctgac cagtacctga gaggtggact ctgtgcctac 800  
 agtgggggtg ctggctatgt ccgaagcagc caggacctga gctgtgactt 850  
 ctgcaatgat gtccttgac gagccaagta cctcaagaga catggcttct 900  
 aacatctcag atgaaacca agaccatgat cacatatgca gcctcaaatg 950  
 ttacacagat aaaactagcc aagggcacct gtaactggga atctgagttt 1000  
 gacctaaaag tcattaaaat aacatgaatc ccattaaaaa aaaaaaaaaa 1049

<210> 76  
 <211> 194  
 <212> PRT  
 <213> Homo Sapien

<400> 76

Met Ser Ala Leu Trp Leu Leu Leu Gly Leu Leu Ala Leu Met Asp  
1 5 10 15  
Leu Ser Glu Ser Ser Asn Trp Gly Cys Tyr Gly Asn Ile Gln Ser  
20 25 30  
Leu Asp Thr Pro Gly Ala Ser Cys Gly Ile Gly Arg Arg His Gly  
35 40 45  
Leu Asn Tyr Cys Gly Val Arg Ala Ser Glu Arg Leu Ala Glu Ile  
50 55 60  
Asp Met Pro Tyr Leu Leu Lys Tyr Gln Pro Met Met Gln Thr Ile  
65 70 75  
Gly Gln Lys Tyr Cys Met Asp Pro Ala Val Ile Ala Gly Val Leu  
80 85 90  
Ser Arg Lys Ser Pro Gly Asp Lys Ile Leu Val Asn Met Gly Asp  
95 100 105  
Arg Thr Ser Met Val Gln Asp Pro Gly Ser Gln Ala Pro Thr Ser  
110 115 120  
Trp Ile Ser Glu Ser Gln Val Ser Gln Thr Thr Glu Val Leu Thr  
125 130 135  
Thr Arg Ile Lys Glu Ile Gln Arg Arg Phe Pro Thr Trp Thr Pro  
140 145 150  
Asp Gln Tyr Leu Arg Gly Gly Leu Cys Ala Tyr Ser Gly Gly Ala  
155 160 165  
Gly Tyr Val Arg Ser Ser Gln Asp Leu Ser Cys Asp Phe Cys Asn  
170 175 180  
Asp Val Leu Ala Arg Ala Lys Tyr Leu Lys Arg His Gly Phe  
185 190

<210> 77

<211> 899

<212> DNA

<213> Homo Sapien

<400> 77

ttgaaaatct actctatcag ctgctgtggt tgccaccatt ctcaggaccc 50  
tcgccatgaa agcccttatg ctgctcacc tgtctgttct gctctgctgg 100  
gtctcagctg acattcgctg tcaactcctgc tacaaggtcc ctgtgctggg 150  
ctgtgtggac cggcagtcct gccgcctgga gccaggacag caatgcctga 200  
caacacatgc ataccttggt aagatgtggg ttttctccaa tctgcgctgt 250  
ggcacaccag aagagccctg tcaggaggcc ttcaacccaa ccaaccgcaa 300

gctgggtctg acatataaca ccacctgctg caacaaggac aactgcaaca 350  
 gcgcaggacc ccggcccact ccagccctgg gccttgtctt ccttacctcc 400  
 ttggctggcc ttggcctctg gctgctgcac tgagactcat tccattggct 450  
 gcccctcctc ccacctgcct tggcctgagc ctctctccct gtgtctctgt 500  
 atccccctggc ttacagaat cgtctctccc tagctcccat ttctttaatt 550  
 aaacactggt ccgagtgggc tcctcatcca tccttcccac ctcacaccct 600  
 tcactctcct ttttctgggt cccttcccac ttccttccag gacctccatt 650  
 ggctcctaga agggctcccc actttgcttc ctatactctg ctgtccccta 700  
 cttgaggagg gattgggatc tgggcctgaa atggggcttc tgtgttgtcc 750  
 ccagtgaagg ctcccacaag gacctgatga cctcactgta cagagctgac 800  
 tccccaaacc caggctccca tatgtacccc atccccata ctcacctctt 850  
 tccattttga gtaataaatg tctgagtctg gaaaaaaaaa aaaaaaaaaa 899

<210> 78  
 <211> 125  
 <212> PRT  
 <213> Homo Sapien

<400> 78  
 Met Lys Ala Leu Met Leu Leu Thr Leu Ser Val Leu Leu Cys Trp  
 1 5 10 15  
 Val Ser Ala Asp Ile Arg Cys His Ser Cys Tyr Lys Val Pro Val  
 20 25 30  
 Leu Gly Cys Val Asp Arg Gln Ser Cys Arg Leu Glu Pro Gly Gln  
 35 40 45  
 Gln Cys Leu Thr Thr His Ala Tyr Leu Gly Lys Met Trp Val Phe  
 50 55 60  
 Ser Asn Leu Arg Cys Gly Thr Pro Glu Glu Pro Cys Gln Glu Ala  
 65 70 75  
 Phe Asn Gln Thr Asn Arg Lys Leu Gly Leu Thr Tyr Asn Thr Thr  
 80 85 90  
 Cys Cys Asn Lys Asp Asn Cys Asn Ser Ala Gly Pro Arg Pro Thr  
 95 100 105  
 Pro Ala Leu Gly Leu Val Phe Leu Thr Ser Leu Ala Gly Leu Gly  
 110 115 120  
 Leu Trp Leu Leu His  
 125

<210> 79

<211> 1977  
<212> DNA  
<213> Homo Sapien

<400> 79  
acgggcccga gcggcagtga cgtaggggtg gcgcacggat ccgttgcggc 50  
tgcagctctg cagtcggggc gttccttcgc cgccgccagg ggtagcgggtg 100  
tagctgcgca gcgtcgcgcg cgctaccgca cccagggttcg gcccgtaggc 150  
gtctggcagc ccggcgccat cttcatcgag cgccatggcc gcagcctgcg 200  
ggccgggagc ggccgggtac tgcttgctcc tcggcttgca tttgtttctg 250  
ctgaccgcgg gccctgccct gggctggaac gaccctgaca gaatgttgct 300  
gcgggatgta aaagctctta ccctccacta tgaccgctat accacctccc 350  
gcaggctgga tcccatccca cagttgaaat gtgttgaggg cacagctggt 400  
tgtgattcct ataccccaaa agtcatacag tgcagaaca aaggctggga 450  
tgggtatgat gtacagtggg aatgtaagac ggacttagat attgcataca 500  
aatttgaaaa aactgtggtg agctgtgaag gctatgagtc ctctgaagac 550  
cagtatgtac taagagggtc ttgtggcttg gagtataatt tagattatac 600  
agaacttggc ctgcagaaac tgaaggagtc tggaaagcag cacggctttg 650  
cctctttctc tgattattat tataagtggc cctcggcgga ttcttgtaac 700  
atgagtggat tgattaccat cgtgggtactc cttgggatcg cctttgtagt 750  
ctataagctg ttcttgagtg acgggcagta ttctcctcca ccgtactctg 800  
agtatcctcc attttccac cgttaccaga gattcaccaa ctcagcagga 850  
cctcctcccc caggctttaa gtctgagttc acaggaccac agaatactgg 900  
ccatggtgca acttctgggt ttggcagtc ttttacagga caacaaggat 950  
atgaaaattc aggaccaggg ttctggacag gcttggaac tggtggaata 1000  
ctaggatatt tgtttggcag caatagagcg gcaacaccct tctcagactc 1050  
gtggtactac ccgtcctatc ctccctccta ccctggcacg tggaataggg 1100  
cttactcacc ccttcattga ggctcgggca gctattcggg atgttcaaac 1150  
tcagacacga aaaccagaac tgcatcagga tatggtggta ccaggagacg 1200  
ataaagtaga aagttggagt caaactctgg atgcagaaat tttggatttt 1250  
tcatcacttt ctctttagaa aaaaagtact acctgttaac aattgggaaa 1300  
aggggatatt caaaagttct gtggtgttat gtccagtga gctttttgta 1350

ttctattatt tgaggctaaa agttgatgtg tgacaaaata cttatgtgtt 1400  
 gtatgtcagt gtaacatgca gatgtatatt gcagtttttg aaagtgatca 1450  
 ttactgtgga atgctaaaaa tacattaatt tctaaaacct gtgatgccct 1500  
 aagaagcatt aagaatgaag gtgttggtact aatagaaact aagtacagaa 1550  
 aatttcagtt ttaggtgggt gtagctgatg agttattacc tcatagagac 1600  
 tataatatcc tatttggtat tatattattt gatgtttgct gttcttcaaa 1650  
 catttaaate aagcttttga ctaattatgc taatttgtga gttctgatca 1700  
 cttttgagct ctgaagcttt gaatcattca gtgggtggaga tggccttctg 1750  
 gtaactgaat attaccttct gtaggaaaag gtggaaaata agcatctaga 1800  
 aggttgttgt gaatgactct gtgctggcaa aaatgcttga aacctctata 1850  
 tttctttcgt tcataagagg taaagggtcaa atttttcaac aaaagtcttt 1900  
 taataacaaa agcatgcagt tctctgtgaa atctcaaata ttgttgtaat 1950  
 agtctgtttc aatcttaaaa agaata 1977

<210> 80  
 <211> 339  
 <212> PRT  
 <213> Homo Sapien

<400> 80  
 Met Ala Ala Ala Cys Gly Pro Gly Ala Ala Gly Tyr Cys Leu Leu  
 1 5 10 15  
 Leu Gly Leu His Leu Phe Leu Leu Thr Ala Gly Pro Ala Leu Gly  
 20 25 30  
 Trp Asn Asp Pro Asp Arg Met Leu Leu Arg Asp Val Lys Ala Leu  
 35 40 45  
 Thr Leu His Tyr Asp Arg Tyr Thr Thr Ser Arg Arg Leu Asp Pro  
 50 55 60  
 Ile Pro Gln Leu Lys Cys Val Gly Gly Thr Ala Gly Cys Asp Ser  
 65 70 75  
 Tyr Thr Pro Lys Val Ile Gln Cys Gln Asn Lys Gly Trp Asp Gly  
 80 85 90  
 Tyr Asp Val Gln Trp Glu Cys Lys Thr Asp Leu Asp Ile Ala Tyr  
 95 100 105  
 Lys Phe Gly Lys Thr Val Val Ser Cys Glu Gly Tyr Glu Ser Ser  
 110 115 120  
 Glu Asp Gln Tyr Val Leu Arg Gly Ser Cys Gly Leu Glu Tyr Asn  
 125 130 135

Leu Asp Tyr Thr Glu Leu Gly Leu Gln Lys Leu Lys Glu Ser Gly  
 140 145 150  
 Lys Gln His Gly Phe Ala Ser Phe Ser Asp Tyr Tyr Tyr Lys Trp  
 155 160 165  
 Ser Ser Ala Asp Ser Cys Asn Met Ser Gly Leu Ile Thr Ile Val  
 170 175 180  
 Val Leu Leu Gly Ile Ala Phe Val Val Tyr Lys Leu Phe Leu Ser  
 185 190 195  
 Asp Gly Gln Tyr Ser Pro Pro Pro Tyr Ser Glu Tyr Pro Pro Phe  
 200 205 210  
 Ser His Arg Tyr Gln Arg Phe Thr Asn Ser Ala Gly Pro Pro Pro  
 215 220 225  
 Pro Gly Phe Lys Ser Glu Phe Thr Gly Pro Gln Asn Thr Gly His  
 230 235 240  
 Gly Ala Thr Ser Gly Phe Gly Ser Ala Phe Thr Gly Gln Gln Gly  
 245 250 255  
 Tyr Glu Asn Ser Gly Pro Gly Phe Trp Thr Gly Leu Gly Thr Gly  
 260 265 270  
 Gly Ile Leu Gly Tyr Leu Phe Gly Ser Asn Arg Ala Ala Thr Pro  
 275 280 285  
 Phe Ser Asp Ser Trp Tyr Tyr Pro Ser Tyr Pro Pro Ser Tyr Pro  
 290 295 300  
 Gly Thr Trp Asn Arg Ala Tyr Ser Pro Leu His Gly Gly Ser Gly  
 305 310 315  
 Ser Tyr Ser Val Cys Ser Asn Ser Asp Thr Lys Thr Arg Thr Ala  
 320 325 330  
 Ser Gly Tyr Gly Gly Thr Arg Arg Arg  
 335